

**45-DAY EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION**

**REGARDING THE 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

BSC 03/16

LEGEND FOR EXPRESS TERMS

1. New California amendments: All such language appears underlined.
2. Repealed text: All such language appears in ~~strikeout~~.
3. *[Information for the reader: All such language is bracketed and in red italics]*

INITIAL EXPRESS TERMS

The California Building Standards Code (California Code of Regulations, Title 24, Parts 1, 2, 2.5, 3, 4, 5, 6, 8, 9, 10, 11, and 12) is published in its entirety every three years and is applicable to all buildings for which an application for a building permit is made during the Code's effective period. The 2016 Intervening Code Adoption Cycle serves as the 18-month cycle and provides state agencies the ability to propose amendments (Supplements) to the 2016 California Building Standards Code. These Express Terms are applicable to the 2016 edition of CCR Title 24, Part 11. The supplement will become effective on July 1, 2018. These proposed regulations amend the 2016 edition of the California Green Building Standards Code (CALGreen).

Items 1-11, 15 and 16, pertain to amendments specific to hybrid urinals, site development, and alignment of flow rates for showerheads and other plumbing fixtures with those in Title 20 of the California Code of Regulations. For these elements, CBSC proposes to adopt and amend Chapters 2, 5, 6, 8, and A5.

Items 12-14 pertain to mandatory recycled water building standards, as follows:

The California Building Standards Commission (CBSC) is proposing to add appropriate sections to the code that require the installation of outdoor recycled water supply systems for newly constructed nonresidential building site landscape areas. Pursuant to AB 2282 (Gatto, Chapter 606, Statutes of 2014), which added Section 18940.6 to the Health and Safety Code, the legislature mandated that CBSC, along with the Department of Housing and Community Development (HCD) and other interested parties, research, develop, and propose for adoption mandatory recycled water infrastructure standards during the 2016 Intervening Code Adoption Cycle. This would result in the installation of recycled water supply systems in new nonresidential construction, as specified. CBSC proposes to adopt and amend Chapters 1, 2, and 5. These provisions will aid in the reduction of potable water use. HCD and the Department of Water Resources are also proposing similar amendments this cycle. The initial submittal of these regulations was heard by the GREEN-PEME Ad Hoc Code Advisory Committee (CAC) on February 13-14, 2017. During this meeting, BSC received valuable feedback from industry stakeholders and other interested parties addressing concerns with the indoor elements of the mandatory recycled water building standards. As a result, the CAC recommended that CBSC further study the majority of the recycled water building standards contained within Items 5-9 of this proposal. Specifically, the CAC recommended that CBSC withdraw the indoor element of the AB 2282 mandate, focusing solely on mandatory standards for outdoor recycled water use for landscape irrigation. Based on this recommendation, CBSC is withdrawing language that was originally proposed to be co-adopted with DWR into Section 1503 (DWR is proceeding with its migration of existing recycled water standards from Chapter 16A into Section 1503). Additionally, the CAC recommended that CBSC coordinate with HCD and DWR on aligning amendments in Sections 1501, 1502, and 1504. CBSC accepted these CAC recommendations and has modified its express terms accordingly.

ITEM 1. CBSC Proposes to amend Chapter 2, Section 202 Definitions

Chapter 2 DEFINITIONS

SECTION 202 DEFINITIONS

DEVELOPMENT FOOTPRINT: ...

DEWATERING: Pumping of uncontaminated or treated groundwater for construction activities.

NO ADDED FORMALDEHYDE...

NON-STORMWATER DISCHARGES: Discharges that do not originate from precipitation events. Including, but not limited to, dewatering activities, washout area discharge, vehicle and equipment cleaning, street cleaning, and irrigation runoff.

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 2. CBSC Proposes to amend Chapter 5, Section 5.106 Site Development

SECTION 5.106 SITE DEVELOPMENT

5.106.1 Stormwater pollution prevention for projects that disturb less than one acre of land. Newly constructed projects and additions which disturb less than one acre of land and are not part of a larger common plan of development or sale shall prevent the pollution of stormwater runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local Ordinance. Comply with a lawfully enacted stormwater management and/or erosion control ordinance.

5.106.1.2 Best management practices (BMP's). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMP's.

1. Soil loss BMP's that should be considered for implementation as appropriate for each project include but are not limited to, the following:

- a. Scheduling construction activity during dry weather, when possible.
- b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
- c. Drainage swales or lined ditches to control storm water flow.
- d. Mulching or hydroseeding to stabilize disturbed soils.
- e. Erosion control to protect slopes.
- f. Protection of storm drain inlets (gravel bags or catch basins inserts).
- g. Perimeter sediment control (perimeter silt fence, fiber rolls).
- h. Sediment trap or sediment basin to retain sediment on site.
- i. Stabilize construction exits.
- j. Wind erosion control.
- k. Other soil loss BMP's acceptable to the enforcing agency.

2. Good housekeeping BMP's to manage construction equipment, materials, non-stormwater discharges, and wastes that should be considered for implementation as appropriate for each project include, but not limited to, the following:

- a. Dewatering activities.
- b. Material handling and waste management.
- c. Management of washout areas (concrete, paints, stucco, etc.)

- d. Control of Vehicle/equipment fueling to contractor's staging area.
- e. Vehicle and equipment cleaning performed off site.
- f. Spill prevention and control.
- g. Other housekeeping BMP's acceptable to the enforcing agency

5.106.2 Stormwater pollution prevention for projects that disturb one or more acres of land.

Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development or sale.

Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require post-construction runoff (post-project hydrology) to match the pre-construction runoff (pre-project hydrology) with the installation of post-construction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through non-structural controls, such as Low Impact Development LID practices, and conservation design measures. Stormwater volume that cannot be addressed using non-structural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

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Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 3. CBSC Proposes to amend Chapter 5, Section 5.106.4 Bicycle parking

5.106.4 Bicycle parking.

For buildings within the ...

5.106.4.1 Bicycle parking.

Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

5.106.4.1.1 Short-term bicycle parking.

...

5.106.4.1.2 Long-term bicycle parking.

For new buildings with tenant spaces that have 10 or more tenant-occupants or for additions or for alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces- being added, with a minimum of one bicycle parking facility-space.

[New section added below]

5.106.4.1.3 For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

[New section added below]

5.106.4.1.4 For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

[The paragraph below has been assigned a new section number with edits]

5.106.4.1.5 The acceptable bicycle parking facilities facility for Sections 5.106.4.1.2, 5.106.4.1.3 & 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 4. CBSC Proposes to amend Chapter 5, Section 5.106.8 Light pollution reduction

5.106.8 Light pollution reduction. [N] Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the *California Energy Code* for Lighting Zones 04--4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
 2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11 (shown in TABLE A-1 in Chapter 8);
 3. Uplight and Glare ratings as defined in *California Energy Code* (shown in TABLES 130.2-A and 130.2B in chapter 8) and
 4. Allowable BUG ratings not exceeding those shown in Table 5.106.8 [N], or
- Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Exceptions: [N]

1. Luminaires that qualify...
2. Emergency...
3. Building façade meeting the requirements...
4. Custom lighting features as allowed by the local enforcing...

Notes:

1. [N] See also *California Building Code*, Chapter 12, Section 1205.6 7 for college campus lighting requirements for parking facilities and walkways.
2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table A-1, *California Energy Code* Tables 130.2-A and 130.2-B.

**TABLE 5.106.8 [N]
MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS^{1,2}**

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE	LIGHTING ZONE LZ4
Maximum Allowable Backlight Rating³ (B)					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1 – 2 MH from property line	N/A	B2	B3	B4	B4
Luminaire back hemisphere is 0.5 – 1 MH from property line	N/A	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	B0	B0	B1	B2
Maximum Allowable Uplight Rating (U)					
For area lighting ⁴	N/A	U0	U0	U0	U0
For all other outdoor lighting, including decorative luminaires	N/A	U1	U2	U3	U4
Maximum Allowable Glare Rating⁵ (G)					
Luminaire greater than 2 MH from property line	N/A	G1	G2	G3	G4
Luminaire front hemisphere is 1 – 2 MH from property line	N/A	G0	G1	G1	G2
Luminaire front hemisphere is 0.5 – 1 MH from property line	N/A	G0	G0	G1	G1
Luminaire back-front hemisphere is less than 0.5 MH from property line	N/A	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code*.
2. ...
3. ...
4. ...
5. ...

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 5. CBSC Proposes to amend Chapter 5, Section 5.303.3

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5.303.3.2 Urinals....

5.303.3.3 Showerheads.

5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than ~~2.0~~ 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed ~~2.0~~ 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

Faucets and fountains...

...

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 6. CBSC Proposes to amend Chapter 5, Section 5.410

BUILDING MAINTENANCE AND OPERATION

5.410.2 Commissioning. [N] New buildings 10,000 sf and over. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. ~~All occupancies other than I-occupancies and L-occupancies shall comply with the California Energy Code as prescribed in California Energy Code Section 120.8.~~ For I-occupancies which are not regulated by OSHPD or for I-occupancies and L-occupancies which are not regulated by the California Energy Code Section 100.0 Scope; all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy related systems under the scope (Section 100) of the *California Energy Code*, including, heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to *California Energy Code* Section 120.8 for commissioning requirements.

Commissioning requirements shall include:

1. Owner's or owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:

1. ...
2. ...
3. ...
4. ...

Note: For the purposes ...

5.410.2.1 Owner's or Owner representative's Project Requirements (OPR). [N]

The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:

1. Environmental and sustainability goals.
2. ~~Energy efficiency goals.~~ Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after-hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.

5.410.2.2 Basis of Design (BOD). [N]

A written explanation of how the design of the building systems meets the OPR shall be completed at

the design phase of the building project. The Basis of Design document shall cover the following systems:

- 1- ~~Heating, ventilation, air conditioning (HVAC) systems and controls.~~
- 2- ~~Indoor lighting system and controls~~
- 3- ~~Water heating system~~
- 4- 1. Renewable energy systems.
- 5- 2. Landscape irrigation systems.
- 6- 3. Water reuse systems.

...

5.410.4 Testing and adjusting; new buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.1 (Reserved)

Note: For energy related systems under the scope (Section 100) of the *California Energy Code*, including, heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to *California Energy Code* Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project:

- 1- ~~HVAC systems and controls.~~
- 2- ~~Indoor and outdoor lighting and controls.~~
- 3- ~~Water heating systems.~~
- 4- 1. Renewable energy systems.
- 5- 2. Landscape irrigation systems.
- 6- 3. Water reuse systems.

...

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 7. CBSC Proposes to amend Chapter 8

COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIAL

Commissioning Referenced Standards for Non-Energy Systems

The following CALGreen Referenced Standards are included herein as a convenience for the users of the California Green Building Standards Code, but they are not considered to be part of the code unless they are officially adopted by a local jurisdiction.

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Part 1

STANDARDS for COMPLIANCE with BUILDING COMMISSIONING

Reference: Section 5.410.2 Commissioning.

Introduction:

The purpose of this code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of concepts that reduce negative and increase positive environmental impacts. Commissioning is a vital element in this effort.

Definitions used in the CALGreen CX Reference standard:

Acronyms

BOD	Basis of Design
Cx	Commissioning
FPT	Functional Performance Test
HVAC	Heating Ventilating and Air-Conditioning
O&M	Operations and Maintenance
OPR	Owner's Project Requirements

Glossary

Acceptance Criteria - The conditions that must be met for systems or equipment to meet defined expected outcomes.

Commissioning (Cx) - Building commissioning as required in this code involves a quality assurance process that begins during design and continues to occupancy. Commissioning verifies that the new building operates as the owner intended and that building staff are prepared to operate and maintain its systems and equipment. Exceptions are allowed for dry storage warehouses of any size and conditioned spaces under 10,000 square accessory to them; and for tenant improvements under 10,000 within a larger space.

Owner - The individual or entity holding title to the property on which the building is constructed.

Commissioning Coordinator - The person who coordinates the commissioning process. This can be either a third-party commissioning provider or an experienced member of the design team or owner in-house staff member.

Commissioning Team - The key members of each party involved with the project designated to provide insight and carry out tasks necessary for a successful commissioning project. Team members may include the commissioning coordinator, owner or owner's representative, building staff, design professionals, contractors or manufacturer's representatives, and testing specialists.

Independent Third-Party Commissioning Professional - A commissioning consultant contracted directly by the owner who is not responsible to, or affiliated with any other member of the design and construction team.

Operation and Maintenance (O&M) Manuals - Documents that provide information necessary for operating and maintaining installed equipment and systems.

Owner Representative – An individual or entity assigned by the owner to act and sign on the owner's behalf.

Process Equipment - Energy-using equipment and components that are not used for HVAC, Electrical, Plumbing and Irrigation operations.

Such devices would include but are not limited to heat transfer, water purifying, air cleaning, air vacuum and air compressing.

Sequence of Operation – A written description of the intended performance and operation of each

control element and feature of the equipment and systems.

Selecting Trained Personnel for (Commissioning)

This code requires that “Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity.” The trained personnel manage and facilitate the commissioning process. The trained personnel develop and implement the commissioning tasks and documentation identified in sections 5.410.2.1 through 5.410.2.7. Trained personnel may include appropriate members of owner staff, contractor and design team as well as independent commissioning professionals.

It is essential that there is a single person designated to lead and manage the commissioning activities. In practice, this individual has been referenced by various identifiers such as commissioning authority, agent, provider, coordinator, lead, etc. In this guide the term “commissioning coordinator” is used.

The designated commissioning coordinator may be an independent third-party commissioning professional, a project design team member (e.g. engineer or architect), an owner’s engineer or facility staff, contractor or specialty sub-contractor. Methods of evaluating the designated commissioning coordinator and trained personnel include review of the following:

1. Technical knowledge
2. Relevant experience
3. Potential conflict of interest concerns
4. Professional certifications and training
5. Communication and organizational skills
6. Reference and sample work products

Selection of “trained”, qualified personnel is required by this Code. In order to meet this requirement, the commissioning provider should be evaluated via the methods discussed above. In addition, various organizations have training and certification programs that may be a source for identification of qualified commissioning providers.

For information about enforcement and compliance of each commissioning element see sections 5.410.2.1 through 5.410.2.7.

For compliance forms and templates see Part 2 following the standard

Reference: Owner’s Project Requirements

CALGreen Section: 5.410.2.1 Owner’s or Owner representative’s Project Requirements (OPR).

1.1 Intent:

The Owner’s Project Requirements (OPR) documents the functional requirements of a project and expectations of the building use and operation as it relates to systems being commissioned. The document describes the physical and functional building characteristics desired by the owner and establishes performance and acceptance criteria. The OPR is most effective when developed during pre-design and used to develop the Basis of Design (BOD) during the design process. The level of detail and complexity of the OPR will vary according to building use, type and systems.

1.2 Compliance Method:

Compliance is demonstrated by the owner or owner’s representative developing and/or approving the Owner’s Project Requirements (OPR) document and can be defined as follows:

1. Environmental and Sustainability Goals – Establish environmental project goals and objectives exceeding the code for the project’s sustainability which may include:
 - a) CALGreen voluntary measures or Tiers sought, or other specific green building rating system or program credits and/or level of certification sought
 - b) Specific environmental or sustainability goals such as water efficiency, water reuse, CO2 monitoring, xeriscaping, etc.
2. Building sustainable Goals –Establish goals and targets affecting energy efficiency which may include:

- a) Measures affecting building sustainability desired by owner
 - Building orientation and siting
 - Daylighting
 - Facade, envelope and fenestration
 - Roof
 - Natural ventilation
 - Onsite renewable power generation and net-zero energy use
 - Landscaping and shading
- 3. Indoor Environmental Quality Requirements - For each program space describe indoor environmental requirements including intended use and anticipated schedule
 - a) Temperature and humidity
 - b) Acoustics
 - c) Air quality, ventilation and filtration
 - d) Desired adjustability of system controls
 - e) Accommodations for after-hours use
 - f) Other owner requirements including natural ventilation, operable windows, daylight, views, etc.
- 4. Project Program, Including facility functions and hours of operation, and need for after hours operation – Describe primary purpose, program and use of proposed project
 - a) Building size, number of stories, construction type, occupancy type and number
 - b) Building program areas including intended use and anticipated occupancy schedules
 - c) Future expandability and flexibility of spaces
 - d) Quality and/or durability of materials and building lifespan desired
 - e) Budget or operational constraints
 - f) Applicable codes
- 5. Equipment and Systems Expectations – Describe the following for each system commissioned:
 - a) Level of quality, reliability, equipment type, automation, flexibility, maintenance and complexity desired
 - b) Specific efficiency targets, desired technologies, or preferred manufacturers for building systems, acoustics and vibration
 - c) Degree of system integration, automation and functionality for controls; i.e.xxx
- 6. Building Occupant and O&M Personnel Expectations – Describe the following:
 - a) How building will be operated and by whom
 - b) Level of training and orientation required to understand, operate and use the building systems for building operation and maintenance staff, as well as occupants
 - c) Building operation and maintenance staff location and capabilities

1.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance at Plan Intake by:

- a) Receipt of a copy of the OPR document, or
- b) Receipt of a form signed by the owner or owner representative attesting that the OPR has been completed and approved by the owner.

Reference: 2 Basis of Design (BOD)

CALGreen Section: 5.410.2.2 Basis of Design (BOD).

2.1 Intent:

The Basis of Design (BOD) describes the building systems to be commissioned and outlines design assumptions not indicated in the design documents. The design team develops the BOD to describe how the building systems design meets the Owner's Project Requirements (OPR), and why the systems were selected. The BOD is most effective when developed early in the project design and updated as necessary throughout the design process.

2.2 Compliance Method:

Compliance requires the completion of the BOD document and should include the following where

applicable:

1. Renewable Energy Systems

- a) Provide narrative description of system – type, performance, control type, energy savings, payback period
- b) Describe reason for system selection – why chosen system is better than alternatives, issues such as performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference,
- c) Sequence of Operation – operating schedules, setpoints, storage capacity
- d) Describe how system meets the OPR

2. Landscape Irrigation Systems

- a) Provide narrative description of system – type, performance, water usage
- b) Describe reason for system selection – why chosen system is better than alternatives, issues such as performance, efficiency, reliability, flexibility, expandability, cost, owner preference, simplicity
- c) Sequence of Operation – operating schedules, setpoints
- d) Describe how system meets the OPR

3. Water Reuse Systems

- a) Provide narrative description of system – type, performance, capacity, reuse purpose
- b) Describe reason for system selection – why chosen system is better than alternatives, issues such as performance, efficiency, reliability, flexibility, expandability, cost, owner preference, simplicity
- c) Sequence of Operation – operating schedules, setpoints
- d) Describe how system meets the OPR

2.3 Enforcement:

At their discretion, the building official confirms demonstrated compliance at Plan Intake by:

- a) Receipt of a copy of the BOD document, or
- b) Receipt of a form signed by the architect, engineer or designer of record, attesting that the BOD has been completed and meets the requirements of the OPR.

Reference: 3 Commissioning measures shown in the construction documents

CALGreen Section: 5.410.2 Commissioning.

This section provides details for element 3: Commissioning measures shown in the construction documents.

3.1 Intent:

Include commissioning measures or requirements in the construction documents (plans and specifications). Commissioning measures or requirements should be clear, detailed and complete to clarify the commissioning process.

3.2 Compliance Method:

Compliance is achieved by including commissioning requirements in the project specifications. The commissioning specifications should include the following:

1. Primary (and optionally all) commissioning requirements are included in the general specification division (typically Division 1) and clear cross references of all commissioning requirements to and from the general division are included to ensure all subcontractors are held to them
2. A list of the systems and assemblies covered by the commissioning requirements.
3. Roles and responsibilities of all parties including:
 - General contractor and subcontractors, vendors, construction manager
 - Commissioning provider lead
 - Owner, facility staff
 - Architect and design engineers
 - Including the non-contractor parties in the construction specifications is for information

- only to provide the contractor with context for their work
 - Include who writes checklists and tests, who reviews and approves test forms, who directs tests, who executes tests, who documents test results and who approves completed tests. These roles may vary by system or assembly.
- 4. Meeting requirements
- 5. Commissioning schedule management procedures
- 6. Issue and non-compliance management procedures
- 7. Requirements for execution and documentation of installation, checkout and start up, including controls point-to-point checks and calibrations
- 8. Specific testing requirements by system, including:
 - Monitoring and trending
 - Opposite season or deferred testing requirements, functions and modes to be tested
 - Conditions of test
 - Acceptance criteria, and any allowed sampling
 - Include details of the format and rigor of the test forms required to document test execution
 - Including example forms is recommended
- 9. Submittal review requirements and approval process.
- 10. Content, authority and approval process of the commissioning plan.
- 11. Commissioning documentation and reporting requirements.
- 12. Facility staff training requirements and verification procedures.
- 13. O&M manual review and approval procedures.
- 14. System's manual development and approval requirements and procedures.
- 15. Definitions section.

3.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance at Plan Intake by:

- a) Receipt of a copy of the commissioning specifications, or
- b) Receipt of a form signed by the owner or owner representative or designer of record attesting that the owner-approved commissioning specifications are included in the construction documents.

Reference: 4 Commissioning plan.

CALGreen Section: 5.410.2.3 Commissioning plan.

4.1 Intent:

The Commissioning Plan (Cx Plan) establishes the commissioning process guideline for the project and commissioning team's level of effort by identifying the required Cx activities to ensure that the Owner's Project Requirements (OPR) and the Basis of Design (BOD) are met. The Cx Plan also includes a commissioning schedule from design to occupancy.

4.2 Compliance Method:

Compliance is demonstrated by preparation of a project specific Cx Plan that includes the elements listed in the code section above. The following gives guidance for developing the components of the Commissioning Plan:

- 1. General project information - Provide project identifying information including but not limited to the following:
 - _____ -Project Name, Owner, Location,
 - _____ -Building type, Building area,
 - _____ -Project Schedule
 - _____ -Contact information of individual/company providing the commissioning services
- 2. Commissioning Goals – Document the commissioning goals, including, but not limited to:
 - _____ -Meeting CALGreen code requirements for commissioning
 - _____ -Meeting OPR and BOD requirements

-Carrying out requirements for commissioning activities as specified in plans and specifications

3. Systems to be commissioned – See BOD

a. An explanation of the original design intent - Document the performance objectives and design intent for each system listed to be commissioned in a written narrative

-Refer to the OPR and BOD documents

b. Equipment and systems to be tested, including the extent of tests

-Provide a list of equipment and systems to be tested

-Describe the range and extent of tests to be performed for each system component, and interface between systems

c. Functions to be tested - Provide example functional test procedures to identify the level of testing detail required

-See (Section 5.410.2.4) FPT guidance for more information

d. Conditions under which the test shall be performed - Identify the conditions under which the major operational system functions are to be tested, including:

-Normal operations and part-load operations

-Seasonal testing requirements

-Restart of equipment and systems after power loss

-System alarm confirmations

e. Measurable criteria for acceptable performance - Include measurable criteria for acceptable performance of each system to be tested

4. Commissioning Team Information - Provide a contact list for all Commissioning team members, including but not limited to:

-Owner, owner's representative

-Architect, Engineers

-Designated commissioning representative

-General contractor, sub-contractors, and construction manager

5. Commissioning process activities, schedules and responsibilities

-Establish prescribed commissioning process steps and activities to be accomplished by the Cx team throughout the design to occupancy

-For each phase of the work, define the roles and responsibilities for each member of the Cx team

-List the required Cx deliverables, reports, forms and verifications expected at each stage of the commissioning effort

-Include the confirmation process for the O&M manual, systems manual and the facility operator and maintenance staff training

4.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance at Plan Intake by:

a) Receipt of a copy of the Commissioning Plan, or

b) Receipt of a form signed by the owner or owner representative attesting that the Cx Plan has been completed.

Reference: 5 Functional performance testing
CALGreen Section: 5.410.2.4 Functional performance testing.

5.1 Intent:

Develop and implement the functional performance tests to document, as set forth in the Commissioning Plan, that all components, equipment, systems and system-to-system interfaces were installed as specified, and operate according to the Owner's Project Requirements, Basis of Design, and plans and specifications.

The following systems to be functionally tested are listed in the Basis of Design (5.410.2.2 of the Code):

1. Renewable Energy Systems

2. Landscape Irrigation Systems

3. Water Reuse Systems

5.2 Compliance Method:

Compliance is demonstrated by developing and implementing test procedures for each piece of commissioned equipment and interfaces between equipment and systems according to the building-specific Commissioning Plan. Tests should include verification of proper operation of all equipment features, each part of the sequence of operation, overrides, lockouts, safeties, alarms, occupied and unoccupied modes, loss of normal power, exercising a shutdown, startup, low load through full load (as much as is possible) and back, staging and standby functions, scheduling, energy efficiency strategies and loop tuning.

Elements of acceptable test procedures include:

1. Date and Party -- Identification of the date of the test and the party conducting the test.
2. Signature Block -- Signature of the designated commissioning lead and the equipment installing contractor attesting that the recorded test results are accurate.
3. Prerequisites -- Any conditions or related equipment checkout or testing that needs to be completed before conducting this test.
4. Precautions -- Identification of the risks involved to the test team members and the equipment and how to mitigate them.
5. Instrumentation -- Listing of the instrumentation and tools necessary to complete the test.
6. Reference -- In each procedure item, identify the source for what is being confirmed (e.g., sequence of operation ID, operating feature, specification requirement, etc.).
7. Test Instructions -- Step-by-step instructions of how to complete the test, including functions to test and the conditions under which the tests should performed.
8. Acceptance Criteria -- Measurable pass / fail criteria for each step of the test, as applicable.
9. Results -- Expected system response and space to document the actual response, readings, results and adjustments.
10. Return to Normal -- Instructions that all systems and equipment are to be returned to their as-found state at the conclusion of the tests.
11. Deficiencies -- A list of deficiencies and how they were mitigated.

5.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance during Onsite Enforcement by:

- a) Receipt of a copy of completed and signed Functional Performance Tests and corrected deficiencies, or
- b) Receipt of a form signed by the owner, owner representative or commissioning coordinator attesting that the Functional Performance Tests have been completed and any deficiencies corrected.

Reference: 6.1 Documentation and training

CALGreen Section: 5.410.2.5 Documentation and training.

Section: 5.410.2.5.1 Systems manual.

6.1.1 Intent:

The Systems Manual documents information focusing on the operation of the building systems. This document provides information needed to understand, operate, and maintain the equipment and systems and informs those not involved in the design and construction of the building systems. This document is in addition to the record construction drawings, documents, and the Operation & Maintenance (O&M) Manuals supplied by the contractor. The Systems Manual is assembled during the construction phase and available during the contractors' training of the facility staff.

A6.1.6.1.2 Compliance Method:

Compliance is demonstrated by providing the Systems Manual. The information in the Systems Manual includes the following information:

1. Site information, including facility description, history and current requirements
 - a) Site Information
 - i. Location of property - Address
 - ii. Site acreage
 - iii. Local utility information
 - Water service provider
 - Natural/LPG gas service provider
 - Electrical service provider
 - Telecommunications service provider
 - Other service providers
 - b) Facility Description
 - i. Use/Function
 - ii. Square footage
 - iii. Occupancy Type
 - iv. Construction Type
 - v. Basis of design
 - vi. Location of major systems & equipment
 - c) Project History
 - i. Project requirements
 - Owner's Project Requirements (OPR)
 - Basis of Design (BOD)
 - ii. Project undocumented events
 - iii. Record Drawings & Documents
 - iv. Final control drawings and schematics
 - v. Final control sequences
 - vi. Construction documents - Location or delivery information
 - Mechanical & electrical drawings
 - Specifications
 - Submittals
 - Project change orders and information
 - d) Current requirements
 - i. Building operating schedules
 - ii. Space temperature, humidity, & pressure, CO2 setpoints
 - iii. Summer and winter setback schedules
 - iv. Chilled & hot water temperatures
 - v. As-built control setpoints and parameters
2. Site contact information
 - a) Owner information
 - b) Emergency contacts
 - c) Design Team: Architect, Mechanical, Engineer, Electrical Engineer, etc.
 - d) Prime Contractor contact information
 - e) Subcontractor information
 - f) Equipment supplier contact information
3. Basic operation & maintenance, including general site operating procedures, basic trouble shooting, recommended maintenance requirements site events log
 - a) Basic operation
 - i. Written narratives of basic equipment operation
 - ii. Interfaces, interlocks and interaction with other equipment and systems
 - iii. Initial maintenance provide by contactor
 - b) General site operating procedures
 - i. Instructions for changes in major system operating schedules
 - ii. Instructions for changes in major system holiday & weekend schedules
 - c) Basic troubleshooting
 - i. Cite any recommended troubleshooting procedures specific to the major systems and equipment installed in the building.

- ii. Manual operation procedures
 - iii. Standby/Backup operation procedures
 - iv. Bypass operation procedures
 - v. Major system power fail resets and restarts
 - vi. Trend log listing
- d) Recommended maintenance events log
- e) Operation & Maintenance Manuals - Location or delivery information
- 4. Major systems
 - a) Renewable energy systems
 - i. Photovoltaic panels & inverters
 - ii. Wind powered electrical generators & inverters
 - b) Landscape irrigation systems
 - i. Water distribution diagrams
 - ii. Control system
 - c) Water reuse systems
 - i. Reclaimed water system for indoor use
 - ii. Reclaimed water for irrigation use
- 5. Site equipment inventory and maintenance notes
 - a) Spare parts inventory
 - b) Frequently required parts and supplies
 - c) Special equipment required to operate or maintain systems
 - d) Special tools required to operate or maintain systems
- 6. A copy of all special inspection verifications required by the enforcing agency of this code
- 7. Other resources and documentation

6.1.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance during Onsite Enforcement by:

- a. Receipt of a copy of the Systems Manual, or
- b. Receipt of a form signed by the owner or owner representative attesting that the System's Manual has been completed.

Reference: 6.2 Documentation and training

CALGreen Section: 5.410.2.5 Documentation and training.

Section: 5.410.2.5.2 Systems operations training.

6.2.1 Intent:

The systems operation training verifies that a training program is developed to provide training to the appropriate maintenance staff for each equipment type and/or system and that this training program is documented in the commissioning report. The systems operations training program is specified in the project specifications for the major systems listed. The System Manual, Operation and Maintenance (O&M) documentation, and record drawings are prepared and available to the maintenance staff prior to implementation of any training or the development of a written training program. The training program is to be administered when the appropriate maintenance staff is made available to receive training.

A6.1.6.2.2 Compliance Method:

The written training program includes: (a) learning goals and objectives for each session, (b) training agenda, topics, and length of instruction for each session, (c) instructor information and qualifications, (d) location of training sessions (onsite, off-site, manufacturer's or vendor's facility), (e) attendance forms, (f) training materials, and (g) description on how the training will be archived for future use.

- 1. Systems/equipment overview
 - a) Review OPR and BOD related to the major systems and equipment
 - b) Describe system type and configuration

- c) Explain operation all major systems and equipment and how it interfaces with other systems and equipment
- d) Describe operation of critical devices, controls and accessories
- e) Review location of the major systems and equipment
- f) Describe operation of control system for each system, location of critical control elements, and procedures to properly operate control system
- g) Review recommendations for implementation to reduce energy and water use
- 2. Review and demonstration of servicing/preventive maintenance
 - a) Explain location or delivery contact of the Operation & Maintenance manuals
 - b) Review of all manufacturer's recommended maintenance activities to maintain warranty
 - c) Review and demonstrate frequent maintenance activities and suggested schedule.
 - d) Review and demonstrate typical servicing procedures and techniques (electrical current, pressure, and flow readings, etc; calibration procedures, point trending, power fail restart procedures, etc.)
 - e) Locate, observe and identify major equipment, systems, accessories and controls
 - f) Review emergency shut-offs and procedures
- 3. Review of the information in the Systems Manual
 - a) Describe use of System Manual
 - b) Review elements of System Manual
 - c) Explain how to update and add revisions to System Manual
- 4. Review record drawings on the systems/equipment
 - a) Explain location or delivery contact of the record drawings
 - b) Review record drawings, revisions, and changes to original design drawings.
 - c) Review equipment schedules and compare with actual installed systems

6.2.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance during Onsite Enforcement by:

- 1. In the event appropriate maintenance staff is made available to receive training for each equipment type and/or system installed in the building.
 - a. Receipt of a copy of the written training program and completed attendance forms, or
 - b. Receipt of a form signed by the owner or owner representative attesting that the training program and delivery of training has been completed
- 2. In the event appropriate maintenance staff are unavailable to receive training for each equipment type and/or system installed in the building.
 - a. Receipt of a copy of the training program provided to the owner or owner's representative, or
 - b. Receipt of a form signed by the owner or owner representative attesting that the written training program has been provided.

Reference: 7 Commissioning report

CALGreen Section: 5.410.2.6 Commissioning report.

7.1 Intent:

The Commissioning Report documents the commissioning process and test results. The report includes confirmation from the commissioning agent verifying that commissioned systems meet the conditions of the Owner's Project Requirements (OPR), Basis of Design (BOD), and Contract Documents.

7.2 Compliance Method:

The Components of the Commissioning Report include the following and are defined as follows:

- 1. Executive summary of process and results of commissioning program – including observations, conclusions and any outstanding items.

2. History of any system deficiencies and how resolved
 - a) Include outstanding deficiencies and plans for resolution
 - b) Include plans for seasonal testing scheduled for a later date
3. System performance test results and evaluations
4. Summary of training process completed and scheduled
5. Attach commissioning process documents
 - a) Commissioning Plan
 - b) Owners Project Requirements (OPR)
 - c) Basis of Design (BOD)
 - d) Executed installation checklists
 - e) Executed Functional Performance Test (FPT) forms
 - f) Recommendations for end-of-warranty review activities

7.3 Enforcement:

At their discretion, the inspector confirms demonstrated compliance during Onsite Enforcement by:

- a) Receipt of a copy of the Commissioning Report, or
- b) Receipt of a form signed by the owner or owner representative attesting that the Cx Report has been completed.

Part 2

SAMPLE FORMS and TEMPLATES for COMMISSIONING

Note: Following are examples of templates and/or forms that may be used or adopted for verification compliance with commissioning. Code users may provide their own documents as permitted by the enforcing agency. For each subsection of commissioning, samples are provided; in a few cases with narrative templates, and in most cases with compliance forms. Simplified forms or more detailed forms, but not both, may be selected to submit for each project.

[Note: Please note that the text for entire new Part 2 (forms and templates) Item 7 document is shown with no underlined to maintain clarity and readability of the forms and templates. Part 2 is being proposed to be added to the CALGreen Code]

OWNER'S PROJECT REQUIREMENTS (OPR) COMPLIANCE TEMPLATE	
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[The Owner's Project Requirements (OPR) is a step of commissioning required for compliance with the CALGreen Code, Section 5.410.2.1, for newly constructed buildings greater than 10,000 sq. ft. This template is a guide to collecting the information recommended for the OPR. The information should be developed by the project team in collaboration with the Owner.]

Owner and User Requirements

- a) [Typically already covered in Project Scope as described in the building program. Includes primary purpose, program and use of project. May also describe future expansion needs, flexibility, quality of materials, construction and operation costs.]

Environmental and Sustainability Goals

- a) Project shall meet performance requirements required by the owner.
- b) Other Owner requirements: [e.g. Owner priorities among CALGreen Code or other areas]

Building Sustainable Goals

- a) Measures affecting energy efficiency desired by owner (e.g. Building orientation, shading, daylighting, natural ventilation, renewable power, etc)

Indoor Environmental Quality Requirements

- a) Indoor lighting requirements: [List any specific non-standard requirements. E.g. pendant-mounted lighting, illumination requirements, special applications.]
- b) Occupant lighting control requirements: [List any non-standard requirements. E.g. multi-mode controls for assembly spaces]
- c) Thermal comfort requirements: [List any non-standard temperature or humidity requirements]
- d) Ventilation and filtration requirements: [List any non-standard requirements]
- e) Occupancy HVAC control requirements: [List any non-standard requirements. E.g. integration with existing control systems]
- f) Acoustic environment requirements: [List any non-standard requirements. E.g. local noise sources requiring mitigation, spaces such as classrooms that require low background noise and short reverberation times]
- g) Other Owner requirements: [E.g. natural ventilation, operable windows, daylight, views]

Equipment and Systems Expectations

- a) Other system requirements:

Building Occupant and O&M Personnel Expectations

Training required for building occupants: [e.g. demonstration, instruction documents]

Training required for operating and maintenance staff: [e.g. demonstration, classroom training, instruction documents]

Other Owner requirements:

OWNER'S PROJECT REQUIREMENTS (OPR) COMPLIANCE FORM	
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The following form may be required to be printed on the permit set of construction drawings or submitted separately.

CALGreen Commissioning Requirement 5.410.2.1- Owner's or Owner representative's Project Requirements (OPR).

5.410.2.1 Owner's or Owner representative's Project Requirements (OPR). *[N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. The documentation shall include the following: (See Cx plan elements checklist below)*

The OPR includes the checked elements listed below that should be approved by the Owner or Owner's Representative.

	OPR Elements	Included
1.	Environmental and Sustainability Goals.	<input type="checkbox"/>
2.	Building Sustainable Goals.	<input type="checkbox"/>
3.	Indoor Environmental Quality Requirements.	<input type="checkbox"/>
4.	Project program, including facility functions and hours of operation, and need for after-hours operation.	<input type="checkbox"/>
5.	Equipment and Systems Expectations.	<input type="checkbox"/>
6.	Building Occupant and O&M Personnel Expectations.	<input type="checkbox"/>

Owner / Owner Representative Signature

Date

**OWNER'S PROJECT REQUIREMENTS (OPR)
COMPLIANCE CHECKLIST**

INCORPORATE THIS FORM IN THE PLANS

Project Address: _____

Permit Number: _____

ITEM #	OPR ITEMS	PAGE NUMBER IN OPR DOCUMENT
	PROJECT PROGRAM	
1	General building information (size, stories, construction type, occupancy type and number)	
2	Intended uses and schedules	
3	Future expandability and flexibility of spaces	
4	Quality and/or durability of materials and desired building lifespan	
5	Budget or operation constraints	
	ENVIRONMENTAL AND SUSTAINABILITY GOALS	
6	Level of compliance with the California Green Building Standards Code: Mandatory, Tier 1, or Tier 2	
7	Specific environmental or sustainability goals (e.g. water efficiency, water reuse, CO ₂ monitoring, xeriscaping, etc.)	
	BUILDING SUSTAINABLE GOALS	
8	Measures affecting energy efficiency desired by owner (e.g. Building orientation, shading, daylighting, natural ventilation, renewable power, etc.	
	INDOOR ENVIRONMENTAL QUALITY REQUIREMENTS	
9	Lighting	
10	Temperature and Humidity	
11	Acoustics	
12	Air quality, ventilation, and filtration	
13	Desired adjustability of system controls	
14	Accommodations for after-hours use	
15	Other owner requirements (e.g. natural ventilation, daylight, views, etc.)	

	EQUIPMENT AND SYSTEMS EXPECTATIONS	
16	Level of quality, reliability, equipment type, flexibility, maintenance, and complexity desired	
17	Specific efficiency targets, desired technologies, or preferred manufacturers for building systems, acoustics and vibration	
18	Degree of system integration, automation, and functionality for controls (i.e. load shedding, demand response, energy management)	
	BUILDING OCCUPANT AND O&M PERSONNEL EXPECTATIONS	
19	Description of how the building will be operated and by whom	
20	Level of training and orientation required to understand, operate and use the building systems for building operation and maintenance staff, as well as occupants	
21	Building operation and maintenance staff location and capabilities	
	COMMISSIONING AGENT INFORMATION	
22	Name of Commissioning Agency:	
23	Address of Agency:	
24	Contact person(s) Name(s):	

Owner/Owner Representative Acknowledgement

Owner's Project Requirements (OPR). The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. The OPR includes the elements listed above and have been approved by the Owner or Owner's Representative.

Name: _____ ☐ Owner ☐ Owner's Representative

Company Name (if applicable): _____

Signature: _____ Date: _____

BASIS OF DESIGN (BOD) COMPLIANCE TEMPLATE	
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Documentation of the Basis of Design (BOD) is a step required for compliance with CALGreen Code, section 5.410.2.1, for newly constructed buildings greater than 10,000 sq. ft. This template is a guide for use by the design team.

1. Renewable Energy Systems

1.1. Narrative Description of System

- A. [System type(s), location, inverter type, control type, performance, efficiency, energy savings, payback period]
- B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

1.2. Reasons for System Selection

[Reasons that the selected renewable energy systems are a better choice than alternatives, e.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference, space constraints, cost, owner preferences, ease of maintenance, etc.]

1.3. Renewable Energy System Generation Calculations

[Describe sizing calculation method, assumptions, and results]

2. Landscape Irrigation Systems

2.1. Narrative Description of System

- A. [System type(s), location, control type, performance, efficiency, water savings]
- B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

2.2. Reasons for System Selection

[Reasons that the selected landscape irrigation systems are a better choice than alternatives. E.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference, cost, owner preferences, ease of maintenance, etc.]

2.3. Landscape Irrigation System Calculations

[Describe sizing calculation method, assumptions, and results]

3. Water Reuse Systems

3.1. Narrative Description of System

- A. [System type(s), location, space requirements, equipment requirements, control type, performance, efficiency, potable water savings, payback period]
- B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

3.2. Reasons for System Selection

[Reasons that the selected water reuse systems are a better choice than alternatives. E.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference, space constraints, cost, owner preferences, ease of maintenance, etc.]

3.3. Water Reuse System Calculations

**BASIS OF DESIGN (BOD)
COMPLIANCE CHECKLIST**

[Describe sizing calculation method, assumptions, and results]

INCORPORATE THIS FORM IN THE PLANS

Project Address: _____

Permit Number: _____

ITEM #	BOD ITEMS	PAGE NUMBER IN BOD DOCUMENT
	RENEWABLE ENERGY SYSTEMS (IF ANY)	
1	Narrative description of system (i.e. system type(s), location, inverter type, control type, performance, efficiency, energy savings, payback period, other)	
2	Description of how the system meets requirements listed in OPR	
3	Reasons for system selection, as opposed to alternatives (e.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, etc.)	
4	Renewable energy system generation calculations: sizing calculation method, assumptions, and results	
	LANDSCAPE IRRIGATION SYSTEMS	
5	Narrative description of system (i.e. system type(s), location, control type, performance, efficiency, water savings, other)	
6	Description of how the system meets requirements in OPR	
7	Reasons for system selection, as opposed to alternatives (e.g. performance, efficiency, reliability, flexibility, cost, utility company incentives, etc.)	
8	Landscape irrigation system calculations: sizing calculation method, assumptions, and results	
	WATER REUSE SYSTEM (IF ANY)	
11	Narrative description of system (i.e. system type(s), location, space requirements, equipment requirements, control type, performance, efficiency, potable water savings, payback period, other)	
12	Description of how the system meets requirements in OPR	
13	Reasons for system selection, as opposed to alternatives (e.g. performance, efficiency, reliability, flexibility, simplicity, cost, payback period, etc.)	
14	Water reuse system calculations: sizing calculation method, assumptions, and results	

Architect/Engineer/Designer Acknowledgement

I hereby acknowledge the Basis of Design (BOD) document has been completed and meets the Owner's Project Requirements (OPR)

	Name	License Number	Signature	Date
Architect of Record				

Landscape Architect				
Renewable Energy System Designer				
Other (specify):				

Commissioning Agent Acknowledgment

I have reviewed the Basis of Design (BOD) and verified that it meets the Owner's Project Requirements (OPR):

Name: _____

Company Name (if applicable): _____

Agent's Signature: _____ Date: _____

Cx MEASURES IN CONSTRUCTION DOCUMENTS COMPLIANCE FORM	
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The following form may be required to be printed on the permit set of construction drawings or submitted separately.

CALGreen Commissioning Requirement 5.410.2 Commissioning Measures in the Construction Documents

5.410.2. Commissioning measures shall be shown in the construction documents.

The commissioning measures shown in the construction documents include the checked elements listed below and have been approved by the Owner, Owner's Representative or Designer of record.

	Commissioning Measure Elements ¹	Included
1.	Measures shown in the specifications and cross referenced	<input type="checkbox"/>
2.	List of commissioned equipment and systems	<input type="checkbox"/>
3.	Cx roles and responsibilities of all parties	<input type="checkbox"/>
4.	Meeting requirements	<input type="checkbox"/>
5.	Commissioning schedule management procedures	<input type="checkbox"/>
6.	Procedures for addressing outstanding issues or non-compliance	<input type="checkbox"/>
7.	Requirements for execution and documentation of installation and equipment start up	<input type="checkbox"/>
8.	Specific testing requirements for each system type ¹	<input type="checkbox"/>
9.	Submittal review and approval requirements	<input type="checkbox"/>
10.	Contents and approval process of the commissioning plan	<input type="checkbox"/>
11.	Cx documentation and reporting requirements	<input type="checkbox"/>
12.	Facility staff training requirements and verification procedures	<input type="checkbox"/>
13.	O&M manual review and approval procedures	<input type="checkbox"/>
14.	Systems manual development and approval procedures	<input type="checkbox"/>
15.	Definitions	<input type="checkbox"/>

1. These are not the detailed step-by-step test procedures, but are lists of features, elements, modes and conditions of tests for specific equipment.

Owner / Owner Representative
or Designer of Record Signature

Date

Cx MEASURES IN CONSTRUCTION DOCUMENTS

INCORPORATE THIS FORM IN THE PLANS

Project Address: _____

Permit Number: _____

ITEM #	Commissioning Measures Items
1	Measures shown in the specifications and cross referenced
2	List of commissioned equipment and systems
3	Cx roles and responsibilities of all parties
4	Meeting requirements
5	Commissioning schedule management procedures
6	Procedures for addressing outstanding issues or non-compliance
7	Requirements for execution and documentation of installation and equipment start up
8	Specific testing requirements for each system type
9	Submittal review and approval requirements
10	Contents and approval process of the commissioning plan
11	Cx documentation and reporting requirements
12	Facility staff training requirements and verification procedures
13	O & M manual review and approval procedures
14	Systems manual development and approval procedures
15	Definitions

Commissioning Agent Acknowledgment

I have reviewed the construction documents listed above and verified their compliance with the owner's project requirements, basis of design, and commissioning plan.

Name: _____

Company Name (if applicable):

Agent's signature: _____ Date: _____

COMMISSIONING PLAN COMPLIANCE FORM	
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The following form may be required to be printed on the permit set of construction drawings or submitted separately.

CALGreen Commissioning Requirement 5.410.2.3 Commissioning Plan

5.410.2.3 Commissioning plan. [N] *Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:*
(See Cx plan elements checklist below)

The commissioning plan should be started during the design phase of the building project, include the checked elements listed below and approved by the Owner or Owner Representative.

	Commissioning Plan Elements ¹	Included
1.	General project information	<input type="checkbox"/>
2.	Commissioning goals	<input type="checkbox"/>
4.	An explanation of original design intent	<input type="checkbox"/>
5.	Equipment and systems to be commissioned and tested, including extent of tests	<input type="checkbox"/>
6.	Functions to be tested and conditions of tests ¹	<input type="checkbox"/>
7.	Measurable performance criteria	<input type="checkbox"/>
8.	Cx team information	<input type="checkbox"/>
9.	Cx activities, schedules and responsibilities	<input type="checkbox"/>

1. These are not the detailed step-by-step test procedures, but are lists of features, elements, modes and conditions of tests for specific equipment.

Owner / Owner Representative Signature

Date

**COMMISSIONING PLAN
COMPLIANCE CHECKLIST**

INCORPORATE THIS FORM IN THE PLANS

Project Address: _____

Permit Number: _____

ITEM #	COMMISSIONING PLAN ITEMS ¹	PAGE NUMBER IN COMMISSIONING PLAN DOCUMENT
	GENERAL PROJECT INFORMATION	
1	Project name, owner, location	
2	Building type, building area	
3	Overall project commissioning schedule	
4	Contact information for individual/company providing commissioning services	
	COMMISSIONING GOALS	
5	Meet California Green Building Standards Code requirements for commissioning	
6	Meeting OPR and BOD requirements	
7	Carrying out requirements for commissioning activities as specified in plans and specifications	
	SYSTEMS TO BE COMMISSIONED	
8	Explanation of the original design intent (refer to OPR and BOD documents)	
9	Equipment and systems to be tested*, functions to be tested, conditions under which the test shall be performed, and measurable criteria for acceptable performance	
	COMMISSIONING TEAM INFORMATION	
10	List of all team members and contact information (i.e. owner, owner's representative, architect, engineers, designated commissioning representative, and (if available): general contractor, sub-contractors, and construction manager)	
	COMMISSIONING PROCESS ACTIVITIES, SCHEDULES, AND RESPONSIBILITIES	
11	Prescribed commissioning process steps and activities to be accomplished by the Cx team throughout the design to occupancy	
12	Roles and responsibilities for each member of the Cx team for each phase of the work	
13	Required Cx deliverables, reports, forms, and verifications expected at each stage of the commissioning effort	
14	Confirmation process for the O&M manual, systems manual and the facility operator and maintenance staff training	

1. The following systems shall be tested: renewable energy systems, landscape irrigation systems and water reuse systems

Owner/Owner Representative Acknowledgment

The commissioning plan includes the items listed above and have been approved by the Owner or Owner Representative:

Name: _____ ☐ Owner ☐ Owner's Representative

Company Name (if applicable): _____

Signature: _____ Date: _____

FUNCTIONAL PERFORMANCE TESTING COMPLIANCE FORM	
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CALGreen Commissioning Requirement 5.410.2.4-Functional Performance Testing

5.410.2.4 Functional performance testing. [N] *Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.*

Test forms have been developed for each piece of commissioned equipment and system and include the checked elements listed below. These tests have been executed with deficiencies corrected.

	Functional Test Elements	Included
1.	Date and parties participating	<input type="checkbox"/>
2.	Signature block attesting test is complete and accurate	<input type="checkbox"/>
3.	Prerequisites	<input type="checkbox"/>
4.	Precautions	<input type="checkbox"/>
5.	Instrumentation required	<input type="checkbox"/>
6.	Reference to the source of what is being confirmed (sequences, packaged features, etc.)	<input type="checkbox"/>
7.	Detailed step-by-step test instructions	<input type="checkbox"/>
8.	Acceptance criteria	<input type="checkbox"/>
9.	Results	<input type="checkbox"/>
10.	Confirmation of returning to normal	<input type="checkbox"/>
11.	Deficiency list	<input type="checkbox"/>

Cx Coordinator Signature

Date

**FUNCTIONAL PERFORMANCE TESTING
COMPLIANCE FORM**

REPORT # (e.g. FPT-003)	SYSTEM/EQUIPMENT TEST REPORT (See minimum report requirements on page 2 of this form)	PAGE/TAB # IN COMMISSIONING REPORT

THIS FORM IS TO COMPLETED FOR THE TIME OF INSPECTION

Project Address: _____

Permit Number: _____

List the functional test reports below for all systems to be tested (see Form 5.4-8.1, item #9)

Minimum Requirements for Test Report

1. Date and Party – Identification of the date of the test and the party conducting the test.
2. Signature Block – Signature of the designated commissioning lead and the equipment installing contractor attesting that the recorded test results are accurate.
3. Prerequisites – any conditions or related equipment checkout or testing that needs to be completed before conducting this test.
4. Precautions – Identification of the risks involved to the test team members and the equipment and how to mitigate them.
5. Instrumentation – Listing of the instrumentation and tools necessary to complete the test.
6. Reference – In each procedure item, identify the source for what is being confirmed (e.g. sequence of operation ID, operating feature, specification requirement, etc.)
7. Test Instructions – Step-by-step instructions of how to complete the test, including functions to test and the conditions under which the tests should be performed.
8. Acceptance Criteria – Measurable pass/fail criteria for each step of the test, as applicable.
9. Results – Expected system response and space to document the actual response, readings, results, and adjustments.
10. Return to Normal – Instructions that all systems and equipment are to be returned to their as-found state at the conclusion of the tests.
11. Deficiencies – A list of deficiencies and how they were mitigated.

Commissioning Agent Acknowledgment

I have reviewed the test reports listed above and verified that they are complete; these tests have been executed with deficiencies corrected.

Name: _____

Company Name (if applicable): _____

Agent's signature: _____ Date: _____

SYSTEMS MANUAL COMPLIANCE FORM	CALGreen Std. BSC-5.4-10 10-08-10
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CALGreen Commissioning Requirement 5.410.2.5.1-Documentation and Training-Systems Manual

5.410.2.5.1 Systems Manual. [N] *Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner or representative. The Systems Manual shall include the following: checked elements listed below.
(See elements checklist below)*

	System Manual Elements	Included
1.	Site information including facility description, history and current requirements	<input type="checkbox"/>
2.	Site contact information	<input type="checkbox"/>
3.	Basic operations and maintenance and troubleshooting	<input type="checkbox"/>
4.	Systems covered include major systems listed under the BOD.	<input type="checkbox"/>
5.	Site equipment inventory and maintenance notes	<input type="checkbox"/>
6.	Special inspection verifications	<input type="checkbox"/>
7.	Other resources and documentation	<input type="checkbox"/>

Owner or Owner Representative Signature

Date

SYSTEM OPERATIONS TRAINING COMPLIANCE FORM	
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CALGreen Commissioning Requirement 5.410.2.5.2-System Operations Training

5.410.2.5.2 Systems Operations Training.[N] *A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following. (See elements checklist below)*

The written training program includes the checked elements listed below.

	Training Program Elements	Included
1.	System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces)	<input type="checkbox"/>
2.	Review and demonstration of servicing & preventive maintenance	<input type="checkbox"/>
3.	Review of the information in the Systems Manual	<input type="checkbox"/>
4.	Review of the record drawings on the system/equipment	<input type="checkbox"/>

The Owner or Owner Representative attest that when the appropriate maintenance staff are made available prior to certificate of occupancy that the written training program was executed with these staff. Or, that if appropriate maintenance staff are not available, that the written training program was submitted and approved by the Owner or Owner Representative.

Owner or Owner Representative Signature

Date

**SYSTEM OPERATIONS TRAINING
COMPLIANCE FORM**

THIS FORM IS TO BE COMPLETED PRIOR TO INSPECTION

Project Address: _____

Permit Number: _____

Part One: System Manual

ITEM #	SYSTEM MANUAL ELEMENTS	PAGE NUMBER IN MANUAL
	SITE INFORMATION	
1	General (i.e. address, acreage, local utility information, other)	
2	Facility description (i.e. use/function, square footage, occupancy type, construction type, basis of design, location of major systems & equipment)	
3	Project history (i.e. project requirements (BOD/OPR), project undocumented events, record drawings & documents, final control drawings & schematics, final control sequences, construction documents)	
4	Current requirements (i.e. building operating schedules, space temperature, humidity, pressure, CO ₂ setpoints, summer and winter setback schedules, chilled and hot water temperatures, As-built control setpoints & parameters)	
	SITE CONTACT INFORMATION	
5	Owner Information	
6	Emergency contacts	
7	Design Team (i.e. architect, mechanical engineer, electrical engineer, other)	
8	Prime Contractor contact information	
9	Subcontractor information	
10	Equipment supplier contact information	
	BASIC OPERATIONS & MAINTENANCE	
11	Basic operation (i.e. narratives of basic equipment operation, interfaces, interlocks & interaction with other equipment & systems, initial maintenance provided by the contractor)	
12	General site operating schedules (i.e. instructions for changes in major system operating schedules, instructions for changes in major system holiday & weekend schedules)	
13	Basic troubleshooting (i.e. cite recommended troubleshooting procedures specific to major systems & equipment, manual operation procedures, standby/backup/bypass operation procedures, major system power fail resets and restarts, trend log listing)	
14	Recommended maintenance events log (i.e. HVAC air filter replacement schedule & log, building control system sensor calibration schedule & log)	
15	Operation & maintenance manuals (location or delivery information)	
	MAJOR SYSTEMS	
19	Water Heating Systems	
20	Landscape irrigation systems (i.e. water distribution diagrams, and control system)	
21	Water reuse systems (i.e. reclaimed water system for indoor use, reclaimed water for irrigation use)	

	SITE EQUIPMENT INVENTORY & MAINTENANCE NOTES	
22	Spare parts inventory	
23	Frequently required parts and supplies	
24	Special equipment required to operate or maintain systems	
25	Special tools required to operate or maintain systems	
	SPECIAL INSPECTIONS	
26	Copies of all special inspection verifications required by the enforcing agency of this code	
	OTHER	
27	Other resources and documentation	

Part Two: Training

ITEM #	TRAINING PROGRAM ELEMENTS	PAGE NUMBER IN TRAINING DOCUMENT
1	System/equipment overview (i.e. what it is, what it does, and with what other systems and/or equipment it interfaces)	
2	Review and demonstration of servicing & preventative maintenance	
3	Review of the information in the Systems Manual	
4	Review of the record drawings on the system/equipment	

Owner/Owner Representative Acknowledgment

- ☐ Documentation of the operation aspects of the building shall be completed within the systems manual and delivered to the building owner or representative and facilities operator. The Systems Manual includes the elements listed in part one of this form; or
- ☐ When the appropriate maintenance staff is made available prior to the certificate of occupancy, the written training program will be executed to these staff. The written training program includes the elements listed in part two of this form.

Name: _____ ☐ Owner ☐ Owner's Representative

Company Name (if applicable): _____

Signature: _____ Date: _____

Commissioning Report Compliance Form	
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CALGreen Commissioning Requirement 5.410.2.6 Commissioning Report

5.410.2.6 Commissioning Report. [N] *A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.*

The commissioning report should include the checked elements listed below and should be approved by the Owner or Owner's Representative.

	Commissioning Report Elements	Included
1.	Executive summary with conclusions and outstanding issues	<input type="checkbox"/>
2.	History of system deficiencies and resolution	<input type="checkbox"/>
3.	Summary of system functional test results	<input type="checkbox"/>
4.	Summary of training completion	<input type="checkbox"/>
5.	Attachments of Commissioning plan, OPR, BOD, executed (filled in) installation checklists, executed functional tests, recommendations for end-of-warranty review	<input type="checkbox"/>

Owner / Owner's Representative Signature

Date

**COMMISSIONING REPORT
COMPLIANCE FORM**

THIS FORM IS TO BE COMPLETED PRIOR TO INSPECTION

Project Address: _____

Permit Number: _____

ITEM #	COMMISSIONING REPORT ELEMENTS	PAGE NUMBER IN COMMISSIONING REPORT DOCUMENT
	EXECUTIVE SUMMARY	
1	Executive summary of process and results of commissioning program (include observations, conclusions, and any outstanding items)	
	HISTORY OF ANY SYSTEM DEFICIENCIES AND HOW RESOLVED	
6	Outstanding deficiencies and plans for resolution	
7	Plans for seasonal testing scheduled for a later date	
	RESULTS	
8	System performance test results and evaluations	
	SUMMARY OF TRAINING	
9	Summary of training process completed and scheduled	
	ATTACH COMMISSIONING PROCESS DOCUMENTS	
10	Commissioning Plan	
11	Owner's Project Requirements (OPR)	
12	Basis of Design (BOD)	
13	Executed installation checklists	
14	Executed Functional Performance Test (FPT) forms	
15	Recommendations for end-of-warranty review activities	

Owner & Commissioning Agent Acknowledgment

The commissioning report includes the items listed above and is approved by the owner/owner's representative and commissioning agent below.

1. Owner/Owner's Representative

The commissioning report includes the items listed above and have been approved by the Owner or Owner's Representative.

Name: _____ ☐ Owner ☐ Owner's Representative

Company Name (if applicable): _____

Signature: _____ Date: _____

2. Commissioning Agent

Name: _____

Company Name (if applicable): _____

Signature: _____ Date: _____

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 8. CBSC Proposes to amend Chapter 8

COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIAL...

[Note: Please note that the tables in the Item 8 document is shown with no underlined to maintain clarity and readability of the tables. Item 8 is being proposed to be added to the CALGreen Code]

...

FOR REFERENCE ONLY: The following Table has been reprinted from the IES TM-15-11 Reference standard, See Section 5.106.8.

[Table is being added to the CALGreen Code for reference only]

IES TM-15-11 TABLE A-1 Backlight Ratings (Maximum Zonal Lumens)

Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ0	LZ 1	LZ 2	LZ 3	LZ 4
Backlight High (BH) 60 to 80 degrees	110	500	1000	2500	5000
Backlight Medium (BM) 30 to <60 degrees	220	1000	2500	5000	8500
Backlight Low (BL) 0 to < 30 degrees	110	500	1000	2500	5000

FOR REFERENCE ONLY: The following Table has been reprinted from the California Energy Code, Part 6 Title 24, See Section 5.106.8.

[Table is being added to the CALGreen Code for reference only]

TABLE 130.2-A Uplight Ratings (Maximum Zonal Lumens)

Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ0	LZ 1	LZ 2	LZ 3	LZ 4

Uplight High (UH) 100 to 180 degrees	0	10	50	500	1,000
Uplight Low (UL) 90 to <100 degrees	0	10	50	500	1,000

FOR REFERENCE ONLY: The following Table has been reprinted from the *California Energy Code, Part 6 Title 24, See Section 5.106.8.*

[Table is being added to the CALGreen Code for reference only]

TABLE 130.2-BGlare Ratings (Maximum Zonal Lumens)

	Glare Rating for Asymmetrical Luminaire Types (Type 1, Type II, Type III, Type IV)				
Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Forward Very High (FVH) 80 to 90 degrees	10	100	225	500	750
Backlight Very High (BVH) 80 to 90 degrees	10	100	225	500	750
Forward High (FH) 60 to <80 degrees	660	1,800	5,000	7,500	12,000
Backlight High (BH) 60 to <80 degrees	110	500	1,000	2,500	5,000
	Glare Rating for Quadrilateral Symmetrical Luminaire Types (Type V, Type V Square)				
Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Forward Very High (FVH) 80 to 90 degrees	10	100	225	500	750
Backlight Very High (BVH) 80 to 90 degrees	10	100	225	500	750
Forward High (FH) 60 to <80 degrees	660	1,800	5,000	7,500	12,000
Backlight High (BH) 60 to <80 degrees	660	1,800	5,000	7,500	12,000

...

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 9. CBSC Proposes to amend Appendix Chapter A5, Section A5.106 Site development

**APPENDIX A5
SECTION A5.106
SITE DEVELOPMENT**

A5.106.2 Stormwater design. Design stormwater runoff rate, and quantity, and quality in conformance with Section A5.106.3 Low Impact Development (LID) ~~Section A5.106.2.1 and storm water runoff quality by Section A5.106.3.2~~ or by local requirements, whichever are stricter.

~~**A5.106.2.1 Storm water runoff rate and quantity.** Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions. **Exception:** If the site is already greater than 50 percent impervious, implement a storm water management plan resulting in a 25 percent decrease in rate and quantity.~~

~~**A5.106.2.2 Storm water runoff quality.** Use postconstruction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) stormwater runoff from the 85th percentile 24-hour runoff event (for volume-based BMPs) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMPs).~~

A5.106.3 Low Impact Development (LID). ~~Reduce peak runoff in compliance with Section 5.106.1. All newly constructed projects shall mitigate (infiltrate, filter or treat) stormwater runoff from the 85th percentile 24-hour runoff event (for volume-based BMP's) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMP's) through the application of (LID) strategies.~~ Employ at least two of the following methods or other best management practices to allow rainwater to soak into the ground, evaporate into the air or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are not limited to:

1. Bioretention (rain gardens) / filtration planters;
2. Precipitation capture (Cisterns and rain barrels);
3. Green roofs meeting the structural requirements of the building code;
4. Roof leader or impervious area disconnection;
5. Permeable and porous paving;
6. Vegetative swales and filter strips;
7. Tree preservation and tree plantings;
8. Landscaping soil quality;
9. Stream buffer; and
10. Volume retention suitable for previously developed sites.

...

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

ITEM 10. CBSC Proposes to amend Appendix Chapter A5, Section A5.601 CALGreen Tier 1 and Tier 2

**SECTION A5.601
CALGreen TIER 1 AND TIER 2**

A5.601.1 Scope.

The measures contained in this appendix are not mandatory unless adopted by local government as specified in Section 101.7. The provisions of this section outline means of achieving enhanced construction or reach levels by incorporating additional green building measures for newly

constructed nonresidential buildings as well as additions and alterations. In order to meet one of the tier levels designers, builders or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level. Refer to the provisions in Section 301.3 for nonresidential additions and alterations scope and application.

...

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 11. CBSC Proposes to amend Appendix Chapter A5, Section A5.601 Compliance and A5.602

A5.601.4 Compliance verification. ...

...

A5.601.4 Compliance verification. ...

**TABLE A5.601 NONRESIDENTIAL BUILDINGS:
Green Building Standards Code Proposed Performance Approach**

*Note: This table is intended only as an aid in illustrating the nonresidential tier structure
(Refer to Checklists A5.602, A5.602.1 and A5.602.2 for CALGreen Verification guidelines
for Mandatory Checklist, Tier 1 Checklist and Tier 2 Checklist)*

CATEGORY	ENVIRONMENTAL PERFORMANCE GOAL	TIER 1	TIER 2
All	Minimum Mandatory (See Mandatory Checklist)	Meet all of the provisions of Chapter 5 (See Tier 1 Checklist)	Meet all of the provision of Chapter 5 (See Tier 2 Checklist)
DIVISION 5.1 Planning and Design	Designated Parking for Fuel Efficient Vehicles	10% of total spaces	12% of total spaces
	Electric Vehicle Charging	Approx. 4% of total spaces	Approx. 6% of total spaces
	Cool Roof to Reduce Heat Island Effect	Roof Slope < 2:12 SRI 75 Roof Slope > 2:12 SRI 16	Roof Slope < 2:12 SRI 82 Roof Slope > 2:12 SRI 27
		1 additional Elective from Division A5.1	3 additional Electives from
DIVISION 5.2 Energy Efficiency	Energy Performance ^{2a, 2b}	Outdoor lighting power 90% of Part 6 allowance	Outdoor lighting power 90% of Part 6 allowance
		If applicable, solar water-heating system with minimum solar savings fraction of 0.15	If applicable, solar water-heating system with minimum solar savings fraction of 0.15
		If applicable, certain functional areas comply with residential indoor lighting requirements	If applicable, certain functional areas comply with residential indoor lighting requirements

		Energy Budget 95% or 90% of Part 6 calculated value of allowance	Energy Budget 90% or 85% of Part 6 calculated value of allowance
<u>DIVISION 5.3</u> Water Efficiency	Indoor Water Use	12% Savings	20% Savings
	Outdoor Water Use	Not to exceed 60% of ETo times the	Not to exceed 55% of ETo times the
		1 additional Elective from	3 additional Electives from
<u>DIVISION 5.4</u> Material Conservation and	Construction Waste Reduction	At least 65% reduction	At least 80% reduction
	Recycled Content	Utilize recycled content materials for 10% of total material cost	Utilize recycled content materials for 15% of total material cost
		1 additional Elective from	3 additional Electives from
<u>DIVISION 5.5</u> Environmental Quality	Low-VOC Resilient Flooring	90% of flooring meets VOC limits	100% of flooring meets VOC limits ¹
	Low-VOC Thermal Insulation	Comply with VOC limits	Install no-added formaldehyde insulation and comply with VOC
		1 additional Elective from	3 additional Electives from
Additional Measures	Added measures shall be achieved across at least 3	1 additional Elective	3 additional Electives
Approximate Total		14	24

1. Exception: Allowance may be permitted in Tier 2 for up to 5-percent specialty purpose flooring.

2. Solar water-heating system requirement for newly constructed restaurants as per A5.203.1.1.2.

Exceptions:

- a. Buildings with a natural gas service water heater with a minimum of 95-percent thermal efficiency.
- b. Buildings where greater than 75 percent of the total roof area has annual solar access that is less than 70 percent. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

3. Life cycle assessment compliant with Section A5.409.4 in this code may be substituted for prescriptive measures from Division A5.4.

SECTION A5.602
NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLISTS⁴

		VOLUNTARY⁴	
		CALGreen Tier 1	CALGreen Tier 2
Requirements			
Project meets all of the requirements of Divisions 5.1 through 5.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planning and Design			
Site Selection			
A5.103.1 Community connectivity. Locate project on a previously developed site within a ¹ / ₂ -mile radius of at least ten basic services, listed in Section A5.103.1.		<input type="checkbox"/>	<input type="checkbox"/>
A5.103.2 Brownfield or greyfield site redevelopment or infill area development. Select for development a brownfield in accordance with Section A5.103.2.1 or on a greyfield or infill site as defined in Section A5.102. A5.103.3.1 Brownfield redevelopment. Develop a site documented as contaminated and fully remediated or on a site defined as a brownfield.		<input type="checkbox"/>	<input type="checkbox"/>
Site Preservation			
A5.104.1.1 Local zoning requirement in place. Exceed the zoning's open space vegetated open space on the site by 25 percent.		<input type="checkbox"/>	<input type="checkbox"/>
A5.104.1.2 No local zoning requirement in place. Provide vegetated open space area to the building equal to the building footprint area.		<input type="checkbox"/>	<input type="checkbox"/>
A5.104.1.3 No open space required in zoning ordinance. Provide vegetated open to 20 percent of the total project site area.		<input type="checkbox"/>	<input type="checkbox"/>
Deconstruction and Reuse of Existing Structures			
A5.105.1.1 Existing building structure. Maintain at least 75 percent of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing) based on surface area. Exceptions: 1. Window assemblies and nonstructural roofing material. 2. Hazardous materials that are remediated as a part of the project. 3. A project with an addition of more than two times the square footage of the existing building.		<input type="checkbox"/>	<input type="checkbox"/>
A5.105.1.2 Existing nonstructural elements. Reuse existing interior nonstructural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50 percent of the area of the completed building (including additions). Exception: A project with an addition of more than two times the square footage of the existing building.		<input type="checkbox"/>	<input type="checkbox"/>
A5.105.1.3 Salvage. Salvage additional items in good condition such as light fixtures, plumbing fixtures and doors for reuse on this project in an onsite storage area or for salvage in dedicated collection bins. Document the weight or number of the items		<input type="checkbox"/>	<input type="checkbox"/>
Site Development			
5.106.1 Storm water pollution prevention. Newly constructed projects and additions which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through local ordinance in Section 5.106.1.1 or Best management practices (BMP) in Section 5.106.1.2.	<input type="checkbox"/> or <input type="checkbox"/>		
A5.106.2 Storm water design. Design storm water runoff rate and quantity in conformance with Section A5.106.3.1 and storm water runoff quality by Section A5.106.3.2 or by local requirements, whichever are stricter.		<input type="checkbox"/>	<input type="checkbox"/>
A5.106.2.1 Storm water runoff rate and quantity. Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions. Exception: If the site is already greater than 50 percent impervious, implement a storm water management plan resulting in a 25-percent decrease in rate and quantity.		<input type="checkbox"/>	<input type="checkbox"/>
A5.106.2.2 Storm water runoff quality. Use post construction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) storm water		<input type="checkbox"/>	<input type="checkbox"/>
A5.106.3 Low impact development (LID). Reduce peak runoff in compliance with Section 5.106.3.1. Employ at least two of the following methods or other best management practices to allow rainwater to soak into the ground, evaporate into the air or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are		<input type="checkbox"/>	<input type="checkbox"/>
		VOLUNTARY⁴	

APPLICATION CHECKLIST FOR BSC		MANDATORY	CALGreen Tier 1	CALGreen Tier 2
Bicycle parking. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2.		<input type="checkbox"/>		
4.1 Bicycle parking. [BSC] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.		<input type="checkbox"/>		
5.106.4.1.1 Short-term bicycle parking. [BSC] If the new project or addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.		<input type="checkbox"/>		
Exception: Additions or alterations which add nine or fewer visitor vehicular parking spaces.				
5.106.4.1.2 Long-term bicycle parking. For buildings with over 10 tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and shall meet one of the following:				
1. Covered, lockable enclosures with permanently anchored racks for bicycles;				
2. Lockable bicycle rooms with permanently anchored racks; or				
3. Lockable, permanently anchored bicycle lockers.		<input type="checkbox"/>		
Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.				
A5.106.5.1 Designated parking for fuel-efficient vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in:			<input type="checkbox"/>	<input type="checkbox"/>
A5.106.5.1.1. Tier 1 10% of total spaces per Table A5.106.5.1.1.		<input type="checkbox"/>		
A5.106.5.1.2. Tier 2 12% of total spaces per Table A5.106.5.1.2.				
5.106.5.2 Designated parking. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2.		<input type="checkbox"/>		
5.106.5.2.1 Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR/ VANPOOL/EV				
5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.106.5.3.1 Single charging space requirements.				
[N] 5.106.5.3.2 Multiple charging spaces requirements. [N]				
5.106.5.3.3 EV charging space calculation. [N] per Table 5.106.5.3.3 (approx. 3%)			<input type="checkbox"/>	
5.106.5.3.4 [N] Identification.				
5.106.5.3.5 [N] EV spaces count as designated parking.				<input type="checkbox"/>
A5.106.6 Parking capacity. Design parking capacity to meet but not exceed minimum local zoning requirements.				
A5.106.6.1 Reduce parking capacity. With the approval of the enforcement authority, employ strategies to reduce on-site parking area by			<input type="checkbox"/>	<input type="checkbox"/>
1. Use of on-street parking or compact spaces, illustrated on the site plan or			<input type="checkbox"/>	<input type="checkbox"/>
2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation.				
A5.106.7 Exterior walls. Meet requirements in the current edition of the <i>California Energy Code</i> and comply with either Section A5.106.7.1 or A5.106.7.2 for wall surfaces:				
A5.106.7.1 Fenestration. Provide vegetative or man-made shading devices for all fenestration on east-, south- and west-facing walls.			<input type="checkbox"/>	<input type="checkbox"/>
A5.106.7.1.1 East and west walls. Shading devices shall have 30% coverage to a height of 20 feet or to the top of the exterior wall, whichever is less.			<input type="checkbox"/>	<input type="checkbox"/>
A5.106.7.1.2 South walls. Shading devices shall have 60% coverage to a height of 20 feet or to the top of the exterior wall, whichever is less.			<input type="checkbox"/>	<input type="checkbox"/>

1.			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ¹	
		CALGreen Tier 1	CALGreen Tier 2
Energy Efficiency			
Performance Requirements			
5.201.1 Scope. Building meets or exceeds the requirements of the California Building Energy Efficiency Standards.3	<input type="checkbox"/>	<input type="checkbox"/> ²	<input type="checkbox"/> ²
A5.203.1 Energy efficiency. Nonresidential, high-rise residential and hotel/motel buildings that include lighting and/or mechanical systems shall comply with Sections A5.203.1.1 and either A5.203.1.2.1 or A5.203.1.2.2. Newly constructed buildings, as well as additions and alterations, are included in the scope of these sections. Buildings permitted without lighting or mechanical systems shall comply with Section A5.203.1.1 but are not required		<input type="checkbox"/>	<input type="checkbox"/>
A5.203.1.1.1 Outdoor lighting. Newly installed outdoor lighting power is no greater than 90 percent of the Title 24, Part 6 calculated value of		<input type="checkbox"/> ²	<input type="checkbox"/> ²
A5.203.1.1.2 Service water heating in restaurants. Newly constructed restaurants 8,000 square feet or greater and with service water heaters rated 75,000 Btu/h or greater installed a solar		<input type="checkbox"/> ²	<input type="checkbox"/> ²
A5.203.1.1.3 Functional areas where compliance with residential lighting standards is required. For newly constructed high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.203.1.1.3. For additions and alterations to high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix		<input type="checkbox"/> ²	<input type="checkbox"/> ²
A5.203.1.2.1 Tier 1. For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 95 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building. For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 90 percent of the Title 24, Part		<input type="checkbox"/> ²	
A5.203.1.2.2 Tier 2. For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building. For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 85 percent of the Title 24, Part			<input type="checkbox"/> ²
Renewable Energy			
A5.211.1 On-site renewable energy. Use on-site renewable energy for at electrical service overcurrent protection device rating calculated in accordance <i>California Electrical Code</i> or 1KW, whichever is greater, in addition to the required to meet 1 percent of natural gas and propane use calculated in <i>California Plumbing Code</i> . A5.211.1.1 Documentation. Calculate renewable on-site system to meet Section A5.211.1. Factor in net metering, if offered by local utility, on an A5.211.3 Green power. Participate in the local utility's renewable energy provides a minimum of 50-percent electrical power from renewable sources. documentation through utility billings.		<input type="checkbox"/>	<input type="checkbox"/>
Elevators, Escalators and Other Equipment			
A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide systems and controls to reduce the energy demand of elevators and escalators as follows. Document systems operation and controls in the project specifications and commissioning plan. A5.212.1.1 Elevators. Traction elevators shall have a regenerative drive system that feeds electrical power back into the building grid when the elevator is in motion. A5.212.1.1.1 Car lights and fan. A parked elevator shall turn off its car lights and fan automatically until the elevator is called for use. A5.212.1.2 Escalators. An escalator shall have a variable voltage variable frequency (VVVF) motor drive system that is fully regenerative		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ¹	
		CALGreen Tier 1	CALGreen Tier 2
Energy Efficient Steel Framing			
A5.213.1 Steel framing. Design for and employ techniques to avoid thermal bridging.		<input type="checkbox"/>	<input type="checkbox"/>
Water Efficiency and Conservation			
Indoor Water Use			
5.303.1 Meters. Separate meters shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2.			
5.303.1.1 New buildings or additions in excess of 50,000 square feet. Separate submeters shall be installed as follows:	<input type="checkbox"/>		
1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day, including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.	<input type="checkbox"/>		
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:	<input type="checkbox"/>		
a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s)	<input type="checkbox"/>		
b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s)	<input type="checkbox"/>		
c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW)	<input type="checkbox"/>		
5.303.1.2 Excess consumption. A separate submeter or metering device shall be			
A5.303.2.3.1 Tier 1 – 12-percent savings. A schedule of plumbing fixtures and fixture will reduce the overall use of potable water within the building by 12 percent shall be		<input type="checkbox"/>	
A5.303.2.3.2 Tier 2 – 20-percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20 percent			<input type="checkbox"/>
A5.303.2.3.3 25-percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 25 percent shall (Calculate savings by Water Use Worksheets)			<input type="checkbox"/>
A5.303.2.3.4 Nonpotable water systems for indoor use. Utilizing nonpotable water (such as captured rainwater, treated graywater, and recycled water) intended to supply closets, urinals, and other allowed uses, may be used in the calculations demonstrating or 25-percent reduction. The nonpotable water systems shall comply with the current <i>California Plumbing Code</i> .		<input type="checkbox"/>	
Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:	<input type="checkbox"/>		
5.303.3.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.	<input type="checkbox"/>		
Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.	<input type="checkbox"/>		
5.303.3.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush.	<input type="checkbox"/>		
5.303.3.3 Showerheads.	<input type="checkbox"/>		
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.	<input type="checkbox"/>		
5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons	<input type="checkbox"/>		
A5.303.3 Appliances and fixture commercial application. Appliances and fixtures shall meet the following:		<input type="checkbox"/>	<input type="checkbox"/>
1. Clothes washers shall have a maximum Water Factor (WF) that will reduce the use of water by 10 percent below the California Energy Commissions' WF standards for commercial clothes washers located in Title 20 of the <i>California Code of Regulations</i> .		<input type="checkbox"/>	<input type="checkbox"/>
2. Dishwashers shall meet the criteria in Section A5.303.3(2)(a) and (b).		<input type="checkbox"/>	<input type="checkbox"/>
3. Ice makers shall be air cooled.		<input type="checkbox"/>	<input type="checkbox"/>
4. Food steamers shall be connectionless or boilerless.		<input type="checkbox"/>	<input type="checkbox"/>
5. [BSC] The use and installation of water softeners that discharge to the community sewers system may be limited or prohibited by local agencies if certain conditions are met.		<input type="checkbox"/>	<input type="checkbox"/>
6. Combination ovens shall not consume more than 10 gph (38 L/h) in the full operational mode.		<input type="checkbox"/>	<input type="checkbox"/>
7. Commercial pre-rinse spray valves manufactured on or after January 1, 2006 shall function at equal to or less than 1.6 gpm (0.10 L/s) at 60 psi (414 kPa) and			
a. Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ⁴	
		CALGreen Tier 1	CALGreen Tier 2
5.303.3.4 Faucets and Fountains 4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. 4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi. 4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi]. 4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle. 5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi]. Note: Where complying faucets are unavailable, aerators or other means may be used			
5.303.4 Areas of additions or alteration. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 shall apply to new fixtures in additions or areas of alterations to the building.	☐		
A5.303.5 Dual plumbing. New buildings and facilities shall be dual-plumbed for potable and recycled water systems for toilet flushing when recycled water is available as determined by the		☐	☐
5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the <i>California Plumbing Code</i> , and shall meet the applicable standards referenced in Table	As applicable ☐		
Outdoor Water Use			
5.304.1 Water budget. A water budget shall be developed for landscape irrigation use. ³ Applies to additions or alterations.	☐		
5.304.2 Outdoor potable water use. For new water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas of at least 1,000 square feet but not more than 5,000 square feet, separate submeters shall be installed for outdoor potable water use. Applies to additions or alterations. A5.304.2.1 Outdoor potable water use. For new water service not subject to the provisions of <i>Water Code</i> Section 535, separate meters or submeters shall be installed for outdoor potable water use for landscaped areas of at least 500 square feet but not more than 1,000 square feet (the level at which Section 5.304.2 applies).	☐	☐	☐
Irrigation design. In new nonresidential projects with at least 1,000 square feet but not more than 2,500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria and meet manufacturer's recommendations. Applies to additions or alterations.	☐		
3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following: 1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. 2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.	As applicable ☐		

<p>A5.304.4 Potable water reduction. Provide water-efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment in accordance with Section A5.304.4.1 or A5.304.4.2. Calculations for the reduction shall be based on the water budget developed pursuant to Section 5.304.1.</p> <p>A5.304.4.1 Tier 1 — Reduce the use of potable water to a quantity that does not exceed 60 percent of ETo times the landscape area.</p> <p>A5.304.4.2 Tier 2 — Reduce the use of potable water to a quantity that does not exceed 55 percent of ETo times the landscape area.</p> <p>Note: Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in A5.304.4.</p> <p>A5.304.4.3 Verification of compliance. A calculation demonstrating the applicable potable water use reduction required by this section shall be provided.</p>		<p>☐</p> <p>☐</p>	<p>☐</p> <p>☐</p>
<p>A5.304.5 Potable water elimination. Provide a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment.</p> <p>Methods used to accomplish the requirements of this section shall include, but not be limited to,</p>		<p>☐</p>	<p>☐</p>

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ¹	
		CALGreen Tier 1	CALGreen Tier 2
A5.304.6 Restoration of areas disturbed by construction. Restore all areas disturbed during construction by planting with local native and/or noninvasive		<input type="checkbox"/>	<input type="checkbox"/>
A5.304.7 Previously developed sites. On previously developed or graded sites, restore or protect at least 50 percent of the site area with native and/or		<input type="checkbox"/>	<input type="checkbox"/>
A5.304.8 Graywater irrigation system. Install graywater collection system for onsite subsurface irrigation using graywater collected from bathtubs, showers, bathroom wash basins and laundry water. See <i>California Plumbing Code</i> .		<input type="checkbox"/>	<input type="checkbox"/>
Water Reuse			
A5.305.1 Nonpotable water systems. Nonpotable water systems for indoor and comply with the current edition of the <i>California Plumbing Code</i> .		<input type="checkbox"/>	<input type="checkbox"/>
A5.305.2 Irrigation systems. Irrigation systems regulated by a local water efficient ordinance or by the California Department of Water Resources Model Water Ordinance (MWEO) shall use recycled water.		<input type="checkbox"/>	<input type="checkbox"/>
Material Conservation and Resource Efficiency			
Efficient Framing Systems			
A5.404.1 Wood framing. Employ advanced wood framing techniques or OVE, as permitted by the enforcing agency.		<input type="checkbox"/>	<input type="checkbox"/>
Material Sources			
A5.405.1 Regional materials. Select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site, meeting the criteria listed in		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.2 Bio-based materials. Select bio-based building materials per Section A5.405.2.2:			
A5.405.2.1 Certified wood products. Certified wood is an important building strategies and the California Building Standards Commission will a standard through the next code cycle.		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.2.2 Rapidly renewable materials. Use materials made from plants ten-year cycle for at least 2.5 percent of total materials value, based on		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.3 Reused materials. Use salvaged, refurbished, refinished or reused materials for at least 5 percent of the total value, based on estimated cost of		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with a total (combined) recycled content value (RCV) of:			
Tier 1. The RCV shall not be less than 10 percent of the total material cost of the project.		<input type="checkbox"/>	<input type="checkbox"/>
Tier 2. The RCV shall not be less than 15 percent of the total material cost of the project. Note: Use the equations in the subsections for		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.5 Cement and concrete. Use cement and concrete made with recycled products and complying with the following sections:			
A5.405.5.1 Cement. Cement shall comply with one of the following standards:		<input type="checkbox"/>	<input type="checkbox"/>
1. Portland cement shall meet ASTM C 150.			
2. Blended hydraulic cement shall meet ASTM C 595.			
3. Other Hydraulic Cements shall meet ASTM C 1157.			
A5.405.5.2 Concrete. Unless otherwise directed by the Engineer of Record, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the enforcing agency.		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.5.2.1 Supplementary cementitious materials (SCMs). Use concrete made with one or more of the SCMs listed in Section A5.405.5.2.1.		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.5.2.1.1 Mix design equation. Use any combination of one or more SCMs, satisfying Equation A4.5-14.			
Exception: Minimums in mix designs approved by the Engineer of Record may be lower where high early strength is needed.			
A5.405.5.3 Additional means of compliance. Any of the following measures shall be permitted to be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with Section A5.405.5.2:		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.5.3.1 Cement. The following measures may be used in the manufacture of cement.		<input type="checkbox"/>	<input type="checkbox"/>
A5.405.5.3.1.1 Alternative fuels. Where permitted by state or			



APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY [†]	
		CALGreen Tier-1	CALGreen Tier-2
<p>A5.405.5.3.2 Concrete. The following measures may be used in the manufacture of</p> <p>A5.405.5.3.2.1 Alternative energy. Renewable or alternative energy meeting requirements of Section A5.211.</p> <p>A5.405.5.3.2.2 Recycled aggregates. Concrete made with one or more of the materials listed in Section A5.405.5.3.2.2.</p> <p>A5.405.5.3.2.3 Mixing water. Water recycled by the local water purveyor or reclaimed from manufacturing processes and conforming to ASTM C 1602.</p> <p>A5.405.5.3.2.4 High strength concrete. Concrete elements designed to total size compared to standard 3,000 psi concrete, as approved by the Record.</p>		<input type="checkbox"/>	<input type="checkbox"/>
Enhanced Durability and Reduced Maintenance			
<p>A5.406.1.1 Service life. Select materials for longevity and minimal deterioration under conditions of use.</p> <p>A5.406.1.2 Reduced maintenance. Select materials that require little, if any, finishing.</p> <p>A5.406.1.3 Recyclability. Select materials that can be re-used or recycled at the end of service life.</p>		<input type="checkbox"/>	<input type="checkbox"/>
Weather Resistance and Moisture Management			
<p>5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by <i>California Building Code</i>, Section 1403.2 and <i>California Energy Code</i>, Section 150, manufacturer's installation instructions or local ordinance,</p>	<input type="checkbox"/>		
<p>5.407.2 Moisture control. Employ moisture control measures by the following methods;</p> <p>5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent irrigation spray on structures.</p>	<input type="checkbox"/>		
<p>5.407.2.2 Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings as follows.</p>	<input type="checkbox"/>		
<p>5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:</p> <ol style="list-style-type: none"> 1. An installed awning at least 4 feet in depth. 2. The door is protected by a roof overhang at least 4 feet in depth. 3. The door is recessed at least 4 feet. 4. Other methods which provide equivalent protection. 	<input type="checkbox"/>		
Construction Waste Reduction, Disposal and Recycling			
<p>Construction waste management. Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.</p>	<input type="checkbox"/>		
<p>5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that complies with Items 1 through 4 of this section.</p>	<input type="checkbox"/>		
<p>5.408.1.2 Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with this section.</p> <p>Exceptions to Sections 5.408.1.1 and 5.408.1.2:</p> <ol style="list-style-type: none"> 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist. 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets 	<input type="checkbox"/>		
<p>5.408.1.4 Documentation. Provide documentation of the waste management plan that meets the requirements listed in Sections 5.408.1.1 through 5.408.1.3, and the plan is accessible to the enforcement authority.</p>	<input type="checkbox"/>		
<p>5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 50 percent minimum requirement as approved by the enforcing agency.</p>	<input type="checkbox"/>		
<p>5.408.3 Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be</p>	<input type="checkbox"/>		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ⁴	
		CALGreen Tier 1	CALGreen Tier 2
<p>A5.408.3.1 Enhanced construction waste reduction—Tier 1 [BSC]. Divert to recycle or salvage at least 65% of nonhazardous construction and demolition waste generated at the site.</p> <p>A5.408.3.1.1 Enhanced construction waste reduction—Tier 2 [BSC]. Divert to recycle or salvage at least 80% of nonhazardous construction waste generated at the site.</p> <p>A5.408.3.1.2 Verification of compliance. A copy of the completed waste management report or documentation of certification of the waste management company utilized shall be provided.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist 3. Demolition waste meeting local ordinance or calculated in consideration of 		<input type="checkbox"/>	<input type="checkbox"/>
Life Cycle Assessment			
<p>A5.409.1 General. Life cycle assessment shall be ISO 14044 compliant. The service life of the building and materials assemblies shall not be less than 60 years.</p> <p>A5.409.2 Whole building life cycle assessment. Conduct a whole building life assessment, including operating energy, showing that the building project achieves at least a 10-percent improvement for at least three of the impacts listed in Section A5.409.2.2, one of which shall be climate change, compared to a reference building.</p> <p>A5.409.3 Materials and system assemblies. If whole building analysis of the project is not elected, select a minimum of 50% of materials or assemblies based on life cycle assessment of at least three for the impacts listed in Section A5.409.2.2, one of which shall be climate change.</p> <p>A5.409.4 Substitution for prescriptive standards. Performance of a life cycle assessment completed in accordance with Section A5.409.2 may be substituted for other prescriptive provisions of Division A5.4, including those made mandatory through local adoption of Tier 1 or Tier 2 in Division A5.6.</p> <p>A5.409.5 Verification of compliance. Documentation of compliance shall be provided as follows:</p> <ol style="list-style-type: none"> 1. The assessment is performed in accordance with ISO 14044. 2. The project meets the requirements of other parts of Title 24. 3. A copy of the analysis shall be made available to the enforcement authority. 4. A copy of the analysis and any maintenance or training recommendations shall be included 		<input type="checkbox"/>	<input type="checkbox"/>
Building Maintenance and Operation			
<p>5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.⁹</p> <p>5.410.1.1 Additions. [A] All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30 percent or more in floor area, shall provide recycling areas on site.</p>	<input type="checkbox"/>		
<p>Commissioning. [N] For new buildings 10,000 square feet and over, building commissioning for all building systems covered by Title 24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in Section 5.410.2.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Unconditioned warehouses of any size 2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses 3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1. 4. Commissioning requirements for energy systems covered by the <i>California Energy Code</i>. 5. Open parking garages of any size, or open parking garage areas of any size, within a structure. <p>5.410.2.1 Owner's Project Requirements (OPR). [N] Documented before the design phase of the project.</p>	<input type="checkbox"/>		
<p>5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems OPR shall be completed at the design phase of the building project to cover the systems listed in</p> <p>5.410.2.3 Commissioning plan. [N] A commissioning plan describing how the project will be shall include items listed in Section 5.410.2.3.</p> <p>5.410.2.4 [N] Functional performance testing shall demonstrate the correct installation and component, system and system-to-system interface in accordance with the approved plans and</p> <p>5.410.2.5 Documentation and training. [N] A Systems manual and systems operations training are required.</p> <p>representative and facilities operator and shall include the items listed in Section 5.410.2.5.1.</p> <p>5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate each equipment type and/or system shall be developed and shall include items listed in Section 5.410.2.5.2.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may	<input type="checkbox"/>		
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APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ¹	
		CALGreen Tier 1	CALGreen Tier 2
5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.			
4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards:	<input type="checkbox"/>		
1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.	<input type="checkbox"/>		
2. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of <i>California Code of Regulations</i> , Title 17, commencing with Section 94507.	<input type="checkbox"/>		
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.	<input type="checkbox"/>		
5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520, et seq.).	<input type="checkbox"/>		
5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency.	<input type="checkbox"/>		
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.	<input type="checkbox"/>		
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.			<input type="checkbox"/>
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.5.	As applicable		
A5.504.4.5.1 No added formaldehyde, Tier 2. Use composite wood products approved by the ARB as no-added formaldehyde (NAF) based resins or ultra-low emitting formaldehyde (ULEF) resins.	<input type="checkbox"/>		
5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:	<input type="checkbox"/>		
5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, flooring which meets one of the following:	<input type="checkbox"/>		
1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;			
2. Compliant with the VOC emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation 1.1, February 2010;			
3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Interpretation for EQ 7.0 and 7.1 (formerly EQ. 2.2) dated July 2012 and listed in the CHPS Performance Product Database; or			

<p>4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & A5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that materials meet the pollutant emission limits.</p>	
<p>A5.504.4.7 Resilient flooring systems, Tier 1 [BSC]. For 90 percent of floor area receiving resilient installed resilient flooring shall meet at least one of the following:</p> <ol style="list-style-type: none"> 1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; 2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation 1.1, February 2010; 3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Interpretation for EQ 7.0 and 7.1 (formerly EQ: 2.2) dated July 2012 and listed in the CHPS Performance Product Database; or 4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & 	

	MANDATORY	VOLUNTARY [†]	
		CALGreen Tier 1	CALGreen Tier 2
<p>A5.504.4.7.1 Resilient flooring systems, Tier 2 [BSC]. For 100 percent of floor area to scheduled to receive resilient flooring, install resilient flooring shall meet at least one of the following:</p> <ul style="list-style-type: none"> 1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; 2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers; Version 1.1, February 2010; 3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and 7.1 (formerly EQ. 2.2) dated July 2012 and listed in the CHPS High Performance Product Database; or 4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program). <p>A5.504.4.7.2 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.</p> <p>A5.504.4.8 Thermal insulation, Tier 1 [BSC]. Comply with the standards listed in Items 1 through 3.</p> <p>A5.504.4.8.1 Thermal insulation, Tier 2 [BSC] Thermal insulation, No-added Formaldehyde. Install thermal insulation which complies with Tier 1 plus does not contain any added formaldehyde.</p> <p>A5.504.4.8.2 Verification of compliance. Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.</p> <p>A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2 and with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database.</p> <p>A5.504.4.9.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.</p> <p>Note: Products compliant with CHPS criteria certified under the Greenguard Children & Schools program may also be used.</p> <p>A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.</p> <p>A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors as listed in Items 1 through 3 in Section A5.504.5.1.</p>			

<p>A5.504.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, exhaust them and isolate them from their adjacent rooms as listed in Items 1 through 3 in Section A5.504.5.2.</p> <p>5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. An ASHRAE 10-percent to 15-percent efficiency filter shall be permitted for an HVAC unit meeting the 2013 <i>California Energy Code</i> having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at design air flow. 2. Existing mechanical equipment. <p>5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.</p>			
<p>A5.504.5.3.1 Filters, Tier 1. In mechanically ventilated buildings, provide regularly occupied areas of the building with air infiltration media for outside and return air prior to occupancy that provides at least a MERV of 11.</p> <p>A5.504.5.3.1.1 Filters, Tier 2. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that</p>			
<p>5.504.7 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University or campus of the University of California;</p>			
<p>Indoor Moisture and Radon Control</p>			
<p>5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of <i>California Building Code</i>, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1.³</p>			
<p>Air Quality and Exhaust</p>			
<p>5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 of the <i>California Energy Code</i> and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.³</p>			
<p>5.506.2 Carbon dioxide (CO₂) monitoring. For buildings or additions equipped with demand control ventilation, CO₂ sensors and ventilation controls shall be specified and installed in accordance with the requirements of the <i>California Energy Code</i>, CCR, Section 120(c)(4).³</p>			

STATE OF CALIFORNIA BUILDING STANDARDS COMMISSION	APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ⁴	
			CALGreen Tier-1	CALGreen Tier-2
Environmental Comfort				
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2. A5.507.1.1 Single-occupant spaces. Provide individual controls that meet energy use requirements in the <i>California Energy Code</i> by Sections A5.507.1.1.1 and A5.507.1.1.2. A5.507.1.1.1 Lighting. Provide individual task lighting and/or daylighting controls for at least 90 percent of the building occupants. A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants by Items 1 and 2 in Section A5.507.1.1.2. A5.507.1.2 Multi-occupant spaces. Provide lighting and thermal comfort system controls for all shared multi-occupant spaces.			<input type="checkbox"/>	<input type="checkbox"/>
A5.507.2 Daylight. Provide daylight spaces as required for toplighting and sidelighting in the <i>California Energy Code</i> . In constructing a design, consider Items 1 through 4 in Section A5.507.3.			<input type="checkbox"/>	<input type="checkbox"/>
A5.507.3 Views. Achieve direct line of sight to the outdoor environment via vision glazing between 2'6" above finish floor for building occupants in 90 percent of all regularly occupied areas. A5.507.3.1 Interior office spaces. Entire areas of interior office spaces may be included in the least 75 percent of each area has direct line of sight to perimeter vision glazing. A5.507.3.2 Multi-occupant spaces. Include in the calculation the square footage with direct line of perimeter vision glazing.			<input type="checkbox"/>	<input type="checkbox"/>
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E 90 and ASTM E 413 or OITC determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2. 5.507.4.1 Exterior noise transmission, prescriptive method. Wall and floor-ceiling assemblies exposed to the noise source making up the building envelope shall have exterior wall and roof-ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 in the locations described in Items 1 and 2. Also applies to addition envelope or altered envelope. 5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L _{eq} -1Hr during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Also applies to addition or alteration exterior wall. 5.507.4.2 Performance method. For buildings located as defined in Sections A5.507.4.1 or A5.507.4.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (L _{eq} -1Hr) of 50 dBA in occupied areas during any hour of operation. Also applies to addition envelope or altered envelope. 5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the project to mitigate sound migration to the interior. Also applies to addition envelope or altered envelope. 5.507.4.2.1 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.		<input type="checkbox"/> <input type="checkbox"/> or <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
Outdoor Air Quality				
5.508.1 Ozone depletion and global warming reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2. 5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs. ³ 5.508.1.2 Halons. Install fire suppression equipment that does not contain Halons. ⁴ A5.508.1.3 Hydrochlorofluorocarbons (HCFCs). Install HVAC and refrigeration equipment that does not contain HCFCs. A5.508.1.4 Hydrofluorocarbons (HFCs). Install HVAC complying with either of the following: 1. Install HVAC, refrigeration and fire suppression equipment that do not contain HFCs or that do not contain HFCs with a global warming potential greater than 150. 2. Install HVAC and refrigeration equipment that limit the use of HFC refrigerant through the use of a secondary heat transfer fluid with a global warming potential no greater than 1.		As applicable <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming-potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities. Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO ₂), and potentially other refrigerants.		<input type="checkbox"/> As applicable		

- ~~1. Green building measures in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.~~
- ~~2. Required prerequisite for this Tier.~~
- ~~3. These measures are currently required elsewhere in statute or in regulation.~~
- ~~4. This application checklist is non-regulatory, intended only as an aid to the user and may not contain complete code language. Refer to Chapter 5 and Appendix Chapter A5 for complete code provisions.~~

[See sections A5.602, A5.602.1 and A602.3 for CALGreen Verification guidelines checklist for Mandatory Checklist, Tier 1 Checklist and Tier 2 Checklists]

**Tables A5.602 Mandatory Checklist, Table A5.602.1 Tier 1 Checklist
and Table A5.602.2 Tier 2 Checklist**

**A5.602
CALGreen VERIFICATION GUIDELINES
MANDATORY MEASURES CHECKLIST**

[Note: Please note that Section A5.602 including the table below is shown with no underlined to maintain clarity and readability of the table. Section A5.602 is being proposed to be added to the CALGreen Code]

Application: This checklist shall be used for non-residential projects that meet one of the following: new construction, building additions of 1,000 sq. ft. or greater or building alterations with a permit valuation of \$200,000 or more pursuant to section 301.1 AND do not trigger a Tier 1 or Tier 2 requirement:

Y = Yes (section has been selected and/or included)

N/A = Not Applicable (Code section does not apply to the project, mainly used for additions and alterations)

O = Other (provide explanation)

[N]=New construction pursuant to section 301.1

[A]=Additions and/or Alterations pursuant to section 301.1

CHAPTER 5 DIVISIONS		SECTION TITLE	CODE SECTION	Y	N/A	O	Plan sheet, Spec or Attach Reference
DIVISION 5.1 Planning and Design	Mandatory	Storm Water Pollution Prevention for projects that disturb less than one acre of land	5.106.1 through 5.106.2				
	Mandatory	Short Term Bicycle Parking w/ exception	5.106.4.1.1				
	Mandatory	Long Term Bicycle Parking	5.106.4.1.2 through 5.106.4.1.5				
	Mandatory	Designated Parking	5.106.5.2				
	Mandatory	Parking stall marking	5.106.5.2.1				
	Mandatory	Single Charging space requirements	5.106.5.3.1				
	Mandatory	Multiple Charging space requirements	5.106.5.3.2				
	Mandatory	EV charging space calculation [N] w/ exceptions	5.106.5.3.3				
	Mandatory	[N] Identification	5.106.5.3.4				
	Mandatory	[N] Future charging spaces w/ notes 1-3	5.106.5.3.5				
	Mandatory	Light Pollution Reduction [N] w/ exceptions and note	5.106.8				
	Mandatory	Grading and Paving, Exception for Additions and Alterations not altering the drainage path	5.106.10				
DIVISION 5.2 Energy Efficiency	Mandatory	Meet the minimum Energy Efficiency Standard	5.201.1				
DIVISION 5.3 Water Efficiency And	Mandatory	Separate Meters (new Buildings or additions > 50,000 SF that consume more than 100 gal/day)	5.303.1.1				
	Mandatory	Separate Meters (for tenants in new buildings or additions that consume more than 1,000 gal/day)	5.303.1.2				

Conservation	Mandatory	Water closets shall not exceed 1.28 gallons per flush	5.303.3.1				
	Mandatory	Wall-mounted urinals shall not exceed 0.125 gpf	5.303.3.2.11				
	Mandatory	Floor-mounted urinals shall not exceed 0.5 gpf	5.303.3.2.2				
	Mandatory	Single showerhead shall have maximum flow rate of 1.8 gpm (gallons per minute) at 80 psi	5.303.3.3.1				
	Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 1.8 gpm at 80 psi	5.303.3.3.2				
	Mandatory	Nonresidential lavatory faucets	5.303.3.4.1				
	Mandatory	Kitchen faucets	5.303.3.4.2				
	Mandatory	Wash basins	5.303.3.4.3				
	Mandatory	Metering faucets	5.303.3.4.4				
	Mandatory	Metering faucets for wash fountains	5.303.3.4.5				
	Mandatory	Food waste disposers	5.303.4.1				
	Mandatory	Areas of additions and alterations	5.303.5				
	Mandatory	Standards for plumbing fixtures and fittings	5.303.6				
	Mandatory	Outdoor water use in landscape areas equal to or greater than 500 sf	5.304.2				
	Mandatory	Outdoor water use in rehabilitated landscape projects with areas equal to or greater than 2,500 sf	5.304.3				
	Mandatory	Outdoor water use in landscape areas of 2,500 sf or less	5.304.4				
	Mandatory	Graywater or rainwater use in landscaped areas	5.304.5				
DIVISION 5.4 Material Conservation and Resource Efficiency	Mandatory	Weather Protection	5.407.1				
	Mandatory	Moisture Control: sprinklers	5.407.2.1				
	Mandatory	Moisture Control: Exterior door protection	5.407.2.2.1				
	Mandatory	Moisture Control: Flashing	5.407.2.2.2				
	Mandatory	Construction waste management-comply with either: sections 5.408.1.1, 5.408.1.2, 5.408.1.3 or more stringent local ordinance	5.408.1.1, 5.408.1.2, 5.408.1.3				
	Mandatory	Construction waste management: Documentation	5.408.1.4				
	Mandatory	Universal Waste [A]	5.408.2				
	Mandatory	Excavated soil and land clearing debris (100% reuse or recycle)	5.408.3				
	Mandatory	Recycling by Occupants w/ exception	5.410.1				
	Mandatory	Recycling by Occupants: Additions w/ exception	5.410.1.1				
	Mandatory	Recycling by Occupants: Sample ordinance	5.410.1.2				
	Mandatory	Commissioning new buildings (≥ 10,000 SF) [N]	5.410.2				
	Mandatory	Owner's or Owner representative's Project Requirements (OPR) [N]	5.410.2.1				
	Mandatory	Basis of Design (BOD) [N]	5.410.2.2				

	Mandatory	Commissioning Plan [N]	5.410.2.3				
	Mandatory	Functional Performance Testing [N]	5.410.2.4				
	Mandatory	Documentation and Training [N]	5.410.2.5				
	Mandatory	Systems Manual [N]	5.410.2.5.1				
	Mandatory	Systems Operation Training) [N]	5.410.2.5.2				
	Mandatory	Commissioning Report [N]	5.410.2.6				
	Mandatory	Testing and adjusting for new buildings < 10,000 SF or new systems that serve additions or alterations. [A]	5.410.4				
	Mandatory	System Testing Plan for HVAC, Lighting, water heating, renewable energy, landscape irrigation and water reuse. [A]	5.410.4.2				
	Mandatory	Procedures for testing and adjusting	5.410.4.3				
	Mandatory	Procedures for HVAC balancing	5.410.4.3.1				
	Mandatory	Reporting for testing and adjusting	5.410.4.4				
	Mandatory	Operation and Maintenance (O&M) Manual	5.410.4.5				
	Mandatory	Inspection and reports	5.410.4.5.1				
	Mandatory	Fireplaces	5.503.1				
DIVISION 5.5 Environmental Quality	Mandatory	Woodstoves	5.503.1.1				
	Mandatory	Temporary ventilation	5.504.1.3				
	Mandatory	Covering of ducts openings and protection of mechanical equipment during construction	5.504.3				
	Mandatory	Adhesives, sealants and caulks	5.504.4.1				
	Mandatory	Paints and coatings	5.504.4.3				
	Mandatory	Aerosol paints and coatings	5.504.4.3.1				
	Mandatory	Aerosol paints and coatings: Verification	5.504.4.3.2				
	Mandatory	Carpet systems	5.504.4.4				
	Mandatory	Carpet cushion	5.504.4.4.1				
	Mandatory	Carpet adhesives per table 5.504.4.1	5.504.4.4.2				
	Mandatory	Composite wood products	5.504.4.5				
	Mandatory	Composite wood products: Documentation	5.504.4.5.3				
	Mandatory	Resilient flooring systems	5.504.4.6				
	Mandatory	Resilient flooring: Verification of compliance	5.504.4.6.1				
	Mandatory	Filters w/ exceptions	5.504.5.3				
	Mandatory	Filters: Labeling	5.504.5.3.1				
	Mandatory	Environmental tobacco smoke (ETS) control	5.504.7				
	Mandatory	Indoor moisture control	5.505.1				
	Mandatory	Outside air delivery	5.506.1				
	Mandatory	Carbon dioxide (CO2) monitoring	5.506.2				

	Mandatory	Acoustical control w/ exception	5.507.4				
	Mandatory	Exterior noise transmission, prescriptive method w/ exceptions	5.507.4.1				
	Mandatory	Noise exposure where noise contours are not readily available	5.507.4.1.1				
	Mandatory	Performance method	5.507.4.2				
	Mandatory	Site features	5.507.4.2.1				
	Mandatory	Documentation of compliance	5.507.4.2.2				
	Mandatory	Interior sound transmission w/ note	5.507.4.3				
	Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1				
	Mandatory	Chlorofluorocarbons (CFCs)	5.508.1.1				
	Mandatory	Halons	5.508.1.2				
	Mandatory	Supermarket refrigerant leak reduction for retail food stores 8,000 square feet or more sections 5.508.2 through 5.508.2.6.3	5.508.2 through 5.508.2.6.3				
		END OF MANDATORY PROVISIONS					

Documentation Author's /Responsible Designer's Declaration Statement

☐ **Mandatory:** I attest that this mandatory provisions checklist is accurate and complete.

Signature:

Company:

Date:

Address:

License:

City/State/Zip:

Phone:

A5.602.1
CALGreen VERIFICATION GUIDELINES
TIER 1 CHECKLIST

[Note: Please note that Section A5.602.1 including the table below is shown with no underlined to maintain clarity and readability of the table. Section A5.602.1 is being proposed to be added to the CALGreen Code]

Application: This checklist shall be used for nonresidential projects that meet the following: new construction, or building additions of 1,000 sq. ft. or greater, or building alterations with a permit valuation of \$200,000 or more pursuant to section 5.301.1, AND are adopting Tier 1 voluntary measures.

Note: All applicable mandatory requirements in chapter 5 shall be met prior to applying Tier 1 voluntary measures.

Instructions:

Comply with all Tier prerequisite measures from the various categories shown on the table below.

Add a “Y” to all Mandatory and Tier 1 prerequisite provisions in the appropriate columns.

Select the required number of additional electives from those categories shown on the table below and add a “Y” on the selected elective and add an “N” on the rest.

Count the total number of Tier 1 prerequisite measures plus the additional electives and write down the total number at the end of the checklist. Determine if the required number of Tier 1 measures have been selected to achieve Tier 1 compliance.

Y=Yes (section has been selected and/or included)

N=No (section has not been selected and/or included)

O=Other (provide explanation)

[N]=New construction pursuant to section 301.1

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CHAPTER 5 DIVISIONS		SECTION TITLE	CODE SECTION	Y	N	O	Plan sheet, Spec or Attach Reference
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	Mandatory	Long Term Bicycle Parking	5.106.4.1.2 through 5.106.4.1.5				
	Mandatory	Designated Parking	5.106.5.2				
	<u>Tier 1 Prerequisites</u>	<u>Designated Parking - 10% of Parking Capacity</u>	<u>A5.106.5.1.1</u>				
	Mandatory	Parking stall marking	5.106.5.2.1				
	Mandatory	Single Charging space requirements	5.106.5.3.1				
	Mandatory	Multiple Charging space requirements	5.106.5.3.2				
	<u>Tier 1 Prerequisites</u>	<u>Electric Vehicle (EV) Charging [N]</u>	<u>A5.106.5.3.1</u>				
	Mandatory	EV charging space calculation [N] w/ exceptions	5.106.5.3.3				
	Mandatory	[N] Identification	5.106.5.3.4				

	Mandatory	[N] Future charging spaces w/ notes 1-3	5.106.5.3.5				
	Mandatory	Light Pollution Reduction [N] w/ exceptions and note	5.106.8				
	Mandatory	Grading and Paving, Exception for Additions and Alterations not altering the drainage path	5.106.10				
	Tier 1 <i>Prerequisites</i>	Cool Roof (A5.106.11.2.2): SRI 75 when < 2:12, SRI 16 when >2:12	A5.106.11.2				
	<i>Electives</i>	<i>Community Connectivity</i>	A5.103.1				
	<i>Electives</i>	<i>Brownfield or Greyfield site redevelopment or infill area development.</i>	A5.103.2				
	<i>Electives</i>	<i>Reduce development footprint and optimize open space.</i>	A5.104.1				
	<i>Electives</i>	<i>Disassemble and Reuse Existing Building Structure (70%)</i>	A5.105.1.1				
	<i>Electives</i>	<i>Disassemble and Reuse Existing Non-Structure elements (50%)</i>	A5.105.1.2				
	<i>Electives</i>	<i>Salvage</i>	A5.105.1.3				
	<i>Electives</i>	<i>Storm Water Design</i>	A5.106.2				
	<i>Electives</i>	<i>Low Impact Development (LID)</i>	A5.106.3				
	<i>Electives</i>	<i>Changing rooms</i>	A5.106.4.3				
	<i>Electives</i>	<i>Parking Capacity</i>	A5.106.6				
	<i>Electives</i>	<i>Exterior Wall Shading</i>	A5.106.7				
	<i>Electives</i>	<i>Heat island Effect</i>	A5.106.11				
DIVISION 5.2 Energy Efficiency	Mandatory	Meet the minimum Energy Efficiency Standard	5.201.1				
	<i>Tier 1 Prerequisites</i>	<i>Energy Performance Outdoor lighting power 90% of Part 6</i>	A5.203.1.1.1				
	<i>Tier 1 Prerequisites</i>	<i>If applicable, Service for water heating in restaurants 8,000 sf or greater</i>	A5.203.1.1.2				
	<i>Tier 1 Prerequisites</i>	<i>Energy Budget 95% or 90% of Part 6 calculated value of allowance</i>	A5.203.1.2.1				
	<i>Elective</i>	<i>On-site renewable energy w/ documentation</i>	A5.211.1 A5.211.1.1				
	<i>Elective</i>	<i>Green power</i>	A5.211.3				
	<i>Elective</i>	<i>Elevators w/ car lights and fan</i>	A5.212.1.1 A5.212.1.1.1				
	<i>Elective</i>	<i>Escalators</i>	A5.212.1.2				
	<i>Elective</i>	<i>Controls that reduce energy</i>	A5.212.1.4				
	<i>Elective</i>	<i>Steel framing</i>	A5.213.1				
DIVISION 5.4 Material Conservation and	Mandatory	Separate Meters (new Buildings or additions > 50,000 SF that consume more than 100 gal/day)	5.303.1.1				
	Mandatory	Separate Meters (for tenants in new buildings or additions that consume more than 1,000 gal/day)	5.303.1.2				
	<i>Tier 1 Prerequisites</i>	<i>Water Reduction Tier 1. 12% savings over the "water use baseline" Table A5.303.2.2 or Meet table A5.303.2.3.1</i>	A5.303.2.3.1				

	Mandatory	Water closets shall not exceed 1.28 gallons per flush	5.303.3.1				
	Mandatory	Wall-mounted urinals shall not exceed 0.125 gpf	5.303.3.2.11				
	Mandatory	Floor-mounted urinals shall not exceed 0.5 gpf	5.303.3.2.2				
	Mandatory	Single showerhead shall have maximum flow rate of 1.8 gpm (gallons per minute) at 80 psi	5.303.3.3.1				
	Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 1.8 gpm at 80 psi	5.303.3.3.2				
	Mandatory	Nonresidential lavatory faucets	5.303.3.4.1				
	Mandatory	Kitchen faucets	5.303.3.4.2				
	Mandatory	Wash basins	5.303.3.4.3				
	Mandatory	Metering faucets	5.303.3.4.4				
	Mandatory	Metering faucets for wash fountains	5.303.3.4.5				
	Mandatory	Food waste disposers	5.303.4.1				
	Mandatory	Areas of additions and alterations	5.303.5				
	Mandatory	Standards for plumbing fixtures and fittings	5.303.6				
	Mandatory	Outdoor water use in landscape areas equal to or greater than 500 sf	5.304.2				
	Mandatory	Outdoor water use in rehabilitated landscape projects with areas equal to or greater than 2,500	5.304.3				
	Mandatory	Outdoor water use in landscape areas of 2,500 sf or less	5.304.4				
	Mandatory	Graywater or rainwater use in landscaped areas	5.304.5				
	Elective	Nonpotable water systems for indoor use	A5.303.2.3.4				
	Elective	Appliances and fixtures for commercial application	A5.303.3				
	Elective	Nonwater supplied urinals	A5.303.4.1				
	Elective	Dual plumbing	A5.303.5				
	Elective	Outdoor potable water use	A5.304.2.1				
	Elective	Restoration of areas disturbed by construction	A5.304.6				
	Elective	Previously developed sites w/ exception	A5.304.7				
	Elective	Graywater irrigation system	A5.304.8				
	Elective	Nonpotable water systems	A5.305.1				
	Elective	Irrigation systems	A5.305.2				
DIVISION 5.4 Material Conservation and Resource Efficiency	Tier 1 Prerequisites	Recycled content for 10% of total material cost	A5.405.4 A5.405.4.1 Through A5.405.4.5				
	Mandatory	Weather Protection	5.407.1				
	Mandatory	Moisture Control: sprinklers	5.407.2.1				
	Mandatory	Moisture Control: Exterior door protection	5.407.2.2.1				
	Mandatory	Moisture Control: Flashing	5.407.2.2.2				
	Mandatory	Construction waste management-comply with either: sections 5.408.1.1, 5.408.1.2, 5.408.1.3 or more stringent local ordinance	5.408.1.1, 5.408.1.2, 5.408.1.3				
	Mandatory	Construction waste management: Documentation	5.408.1.4				
	Mandatory	Universal Waste [A]	5.408.2				
	Mandatory	Excavated soil and land clearing debris (100% reuse or recycle)	5.408.3				

<i>Tier 1 Prerequisites</i>	<i>Enhanced construction waste reduction 65% – Tier 1 w/ verification w/ verification</i>	<i>A5.408.3.1 A5.408.3.1.2</i>				
Mandatory	Recycling by Occupants w/ exception	5.410.1				
Mandatory	Recycling by Occupants: Additions w/ exception	5.410.1.1				
Mandatory	Recycling by Occupants: Sample ordinance	5.410.1.2				
Mandatory	Commissioning new buildings (≥ 10,000 SF) [N]	5.410.2				
Mandatory	Owner's or Owner representative's Project Requirements (OPR) [N]	5.410.2.1				
Mandatory	Basis of Design (BOD) [N]	5.410.2.2				
Mandatory	Commissioning Plan [N]	5.410.2.3				
Mandatory	Functional Performance Testing [N]	5.410.2.4				
Mandatory	Documentation and Training [N]	5.410.2.5				
Mandatory	Systems Manual [N]	5.410.2.5.1				
Mandatory	Systems Operation Training) [N]	5.410.2.5.2				
Mandatory	Commissioning Report [N]	5.410.2.6				
Mandatory	Testing and adjusting for new buildings < 10,000 SF or new systems that serve additions or alterations. [A]	5.410.4				
Mandatory	System Testing Plan for HVAC, Lighting, water heating, renewable energy, landscape irrigation and water reuse. [A]	5.410.4.2				
Mandatory	Procedures for testing and adjusting	5.410.4.3				
Mandatory	Procedures for HVAC balancing	5.410.4.3.1				
Mandatory	Reporting for testing and adjusting	5.410.4.4				
Mandatory	Operation and Maintenance (O&M) Manual	5.410.4.5				
Mandatory	Inspection and reports	5.410.4.5.1				
Mandatory	Fireplaces	5.503.1				
Mandatory	Woodstoves	5.503.1.1				
Mandatory	Temporary ventilation	5.504.1.3				
<i>Elective</i>	<i>Cement and concrete: Cement</i>	<i>A5.405.5.1</i>				
<i>Elective</i>	<i>Cement and concrete: Concrete /w SCM & Mix design equation</i>	<i>A5.405.5.2 A5.405.5.2.1 A5.405.5.2.1.1</i>				
<i>Elective</i>	<i>Cement and concrete: Additional means of compliance</i>	<i>A5.405.5.3 A5.405.5.3.1 A5.405.5.3.1.1 A5.405.5.3.1.2 A5.405.5.3.2 A5.405.5.3.2.1 A5.405.5.3.2.2 A5.405.5.3.2.3 A5.405.5.3.2.4</i>				
<i>Elective</i>	<i>Choice of materials</i>	<i>A5.406.1 A5.406.1.1 A5.406.1.2 A5.406.1.3</i>				
<i>Elective</i>	<i>Life cycle assessment: General</i>	<i>A5.409.1</i>				

	<i>Elective</i>	<i>Whole building life cycle assessment</i>	<i>A5.409.2 A5.409.2.1 A5.409.2.2</i>				
	<i>Elective</i>	<i>Materials and system assemblies</i>	<i>A5.409.3</i>				
	<i>Elective</i>	<i>Substitution for prescriptive standards</i>	<i>A5.409.4</i>				
	<i>Elective</i>	<i>Verification of compliance</i>	<i>A5.409.5</i>				
		<i>Indoor air quality (IAQ) during construction</i>	<i>A5.504.1 A5.504.1.1 A5.504.1.2</i>				
	<i>Elective</i>	<i>IAQ postconstruction</i>	<i>A5.504.2</i>				
DIVISION 5.5 Environmental Quality	Mandatory	Covering of ducts openings and protection of mechanical equipment during construction	5.504.3				
	Mandatory	Adhesives, sealants and caulks	5.504.4.1				
	Mandatory	Paints and coatings	5.504.4.3				
	Mandatory	Aerosol paints and coatings	5.504.4.3.1				
	Mandatory	Aerosol paints and coatings: Verification	5.504.4.3.2				
	Mandatory	Carpet systems	5.504.4.4				
	Mandatory	Carpet cushion	5.504.4.4.1				
	Mandatory	Carpet adhesives per table 5.504.4.1	5.504.4.4.2				
	Mandatory	Composite wood products	5.504.4.5				
	Mandatory	Composite wood products: Documentation	5.504.4.5.3				
	Mandatory	Resilient flooring systems	5.504.4.6				
	Mandatory	Resilient flooring: Verification of compliance	5.504.4.6.1				
	<i>Tier 1 Prerequisites</i>	<i>Resilient flooring systems, Tier 1 w/ verification</i>	<i>A5.504.4.7 A5.504.4.7.2</i>				
	<i>Tier 1 Prerequisites</i>	<i>Thermal insulation, Tier 1 w/ verification of compliance</i>	<i>A5.504.4.8 A5.504.4.8.2</i>				
	Mandatory	Filters w/ exceptions	5.504.5.3				
	Mandatory	Filters: Labeling	5.504.5.3.1				
	Mandatory	Environmental tobacco smoke (ETS) control	5.504.7				
	Mandatory	Indoor moisture control	5.505.1				
	Mandatory	Outside air delivery	5.506.1				
	Mandatory	Carbon dioxide (CO2) monitoring	5.506.2				
	Mandatory	Acoustical control w/ exception	5.507.4				
	Mandatory	Exterior noise transmission, prescriptive method w/ exceptions	5.507.4.1				
	Mandatory	Noise exposure where noise contours are not readily available	5.507.4.1.1				
	Mandatory	Performance method	5.507.4.2				
	Mandatory	Site features	5.507.4.2.1				
	Mandatory	Documentation of compliance	5.507.4.2.2				
	Mandatory	Interior sound transmission w/ note	5.507.4.3				
	Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1				
	Mandatory	Chlorofluorocarbons (CFCs)	5.508.1.1				
	Mandatory	Halons	5.508.1.2				

		Supermarket refrigerant leak reduction for retail food stores 8,000 square feet or more sections 5.508.2 through 5.508.2.6.3	5.508.2 through 5.508.2.6.3				
	<i>Elective</i>	<i>IAQ testing</i>	<i>A5.504.2.1 A5.504.2.1.1 A5.504.2.1.2 A5.504.2.1.3</i>				
	<i>Elective</i>	<i>No added formaldehyde Tier 1 w/ notes</i>	<i>A5.504.4.5.1</i>				
	<i>Elective</i>	<i>Acoustical ceilings and wall panels w/ verification of compliance</i>	<i>A5.504.4.9 A5.504.4.9.1</i>				
	<i>Elective</i>	<i>Hazardous particulates and chemical pollutants</i>	<i>A5.504.5</i>				
	<i>Elective</i>	<i>Entryway systems</i>	<i>A5.504.5.1</i>				
	<i>Elective</i>	<i>Isolation of pollutant sources</i>	<i>A5.504.5.2</i>				
	<i>Elective</i>	<i>Filters, Tier 1</i>	<i>A5.504.5.3.1</i>				
	<i>Elective</i>	<i>Lighting and thermal comfort controls</i>	<i>A5.507.1 A5.507.1.1 through A5.507.1.2</i>				
	<i>Elective</i>	<i>Daylight w/ exception</i>	<i>A5.507.2</i>				
	<i>Elective</i>	<i>Views w/ exception</i>	<i>A5.507.3</i>				
	<i>Elective</i>	<i>Interior office spaces</i>	<i>A5.507.3.1</i>				
	<i>Elective</i>	<i>Multi-occupant spaces</i>	<i>A5.507.3.2</i>				
	<i>Elective</i>	<i>Hydrochlorofluorocarbons (HCFCs)</i>	<i>A5.508.1.3</i>				
	<i>Elective</i>	<i>Hydrofluorocarbons (HFCs)</i>	<i>A5.508.1.4</i>				
Additional Measures		<i>Select 1 additional measure</i>	Add section #				
Total number of Measures required			15				
Total number of Measures selected							

Documentation Author's /Responsible Designer's Declaration Statement

Check the appropriate box(s) for the list below

- ☐ **Mandatory:** I attest that the mandatory provisions checklist is accurate and complete.
- ☐ **Tier 1 compliant:** I attest that the total number of voluntary measures selected meet or exceed the total number required to achieve Tier 1 compliance.
- ☐ **Partial Tier 1 compliant:** I attest that the total number of voluntary measures selected do not meet the total number required to achieve Tier 1 compliance however partial Tier 1 compliance has been achieved.

Signature:

Company:

Date:

Address:

License:

City/State/Zip:	Phone:
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A5.602.2 CALGreen VERIFICATION GUIDELINES TIER 2 CHECKLIST

[Note: Please note that Section A5.602.2 including the table below is shown with no underlined to maintain clarity and readability of the table. Section A5.602.2 is being proposed to be added to the CALGreen Code]

Application: This checklist shall be used for nonresidential projects that meet the following: new construction, or building additions of 1,000 sq. ft. or greater, or building alterations with a permit valuation of \$200,000 or more pursuant to section 5.301.1, AND are adopting Tier 2 voluntary measures.

Note: All applicable mandatory requirements in chapter 5 shall be met prior to applying Tier 2 voluntary measures.

Instructions:

Comply with all Tier 2 prerequisite measures from the various categories shown on the table below.

Add a “Y” to all Mandatory and Tier 2 prerequisite provisions in the appropriate columns.

Select the required number of additional electives from those categories shown on the table below and add a “Y” on the selected elective and add an “N” on the rest.

Count the total number of Tier 1 prerequisite measures plus the additional electives and write down the total number at the end of the checklist. Determine if the required number of Tier 2 measures have been selected to achieve Tier 2 compliance.

Y=Yes (section has been selected and/or included)

N=No (section has not been selected and/or included)

O=Other (provide explanation)

[N]=New construction pursuant to section 301.1

[A]=Additions and/or Alterations pursuant to section 301.1

CHAPTER 5 DIVISIONS		SECTION TITLE	CODE SECTION	Y	N	O	Plan sheet, Spec or Attach Reference
DIVISION 5.1 Planning and Design	Mandatory	Storm Water Pollution Prevention for projects that disturb less than one acre of land	5.106.1 through 5.106.2				
	Mandatory	Short Term Bicycle Parking	5.106.4.1.1				
	Mandatory	Long Term Bicycle Parking	5.106.4.1.2 through 5.106.4.1.5				

	Mandatory	Designated Parking	5.106.5.2				
	<i>Tier 2 Prerequisite</i>	<i>Designated Parking - 12% of Parking Capacity</i>	<i>A5.106.5.1.2</i>				
	Mandatory	Parking stall marking	5.106.5.2.1				
	Mandatory	Single Charging space requirements	5.106.5.3.1				
	Mandatory	Multiple Charging space requirements	5.106.5.3.2				
	<i>Tier 2 Prerequisite</i>	<i>Electric Vehicle (EV) Charging [N]</i>	<i>A5.106.5.3.2</i>				
	Mandatory	EV charging space calculation [N] w/	5.106.5.3.3				
	Mandatory	[N] Identification	5.106.5.3.4				
	Mandatory	[N] Future charging spaces w/ notes 1-3	5.106.5.3.5				
	Mandatory	Light Pollution Reduction [N] w/ exceptions and note	5.106.8				
	Mandatory	Grading and Paving, Exception for Additions and Alterations not altering the drainage path	5.106.10				
	<i>Tier 2 Prerequisite</i>	<i>Cool Roof (T.A5.106.11.2.3): SRI 75 when < 2:12, SRI 16 when >2:12</i>	<i>A5.106.11.2</i>				
	<i>Electives</i>	<i>Community Connectivity</i>	<i>A5.103.1</i>				
	<i>Electives</i>	<i>Brownfield or Greyfield site redevelopment or infill area development.</i>	<i>A5.103.2</i>				
	<i>Electives</i>	<i>Reduce development footprint and optimize open space.</i>	<i>A5.104.1</i>				
	<i>Electives</i>	<i>Disassemble and Reuse Existing Building Structure (70%)</i>	<i>A5.105.1.1</i>				
	<i>Electives</i>	<i>Disassemble and Reuse Existing Non-Structure elements (50%)</i>	<i>A5.105.1.2</i>				
	<i>Electives</i>	<i>Salvage</i>	<i>A5.105.1.3</i>				
	<i>Electives</i>	<i>Storm Water Design</i>	<i>A5.106.2</i>				
	<i>Electives</i>	<i>Low Impact Development (LID)</i>	<i>A5.106.3</i>				
	<i>Electives</i>	<i>Changing rooms</i>	<i>A5.106.4.3</i>				
	<i>Electives</i>	<i>Parking Capacity</i>	<i>A5.106.6</i>				
	<i>Electives</i>	<i>Exterior Wall Shading</i>	<i>A5.106.7</i>				
	<i>Electives</i>	<i>Heat island Effect</i>	<i>A5.106.11</i>				
DIVISION 5.2 Energy Efficiency	Mandatory	Meet the minimum Energy Efficiency Standard	5.201.1				
	<i>Tier 2 Prerequisite</i>	<i>Energy Performance</i>	<i>A5.203.1.1.1</i>				
	<i>Tier 2 Prerequisite</i>	<i>Outdoor lighting power 90% of Part 6</i>					
	<i>Tier 2 Prerequisite</i>	<i>If applicable, Service for water heating in restaurants 8,000 sf or greater</i>	<i>A5.203.1.1.2</i>				
	<i>Tier 2 Prerequisite</i>	<i>Energy Budget 90% or 85% of Part 6 calculated value of allowance</i>	<i>A5.203.1.2.2</i>				
	<i>Elective</i>	<i>On-site renewable energy w/ documentation</i>	<i>A5.211.1</i> <i>A5.211.1.1</i>				
	<i>Elective</i>	<i>Green power</i>	<i>A5.211.3</i>				
	<i>Elective</i>	<i>Elevators w/ car lights and fan</i>	<i>A5.212.1.1</i> <i>A5.212.1.1.1</i>				
	<i>Elective</i>	<i>Escalators</i>	<i>A5.212.1.2</i> <i>A5.212.1.4</i>				
	<i>Elective</i>	<i>Controls that reduce energy</i>	<i>A5.212.1.4</i>				
	<i>Elective</i>	<i>Steel framing</i>	<i>A5.213.1</i>				

DIVISION 5.3 Water Efficiency And Conservation	Mandatory	Separate Meters (new Buildings or additions > 50,000 SF that consume more than 100	5.303.1.1				
	Mandatory	Separate Meters (for tenants in new buildings or additions that consume more than 1,000	5.303.1.2				
	<i>Tier 2 Prerequisite</i>	<i>Water Reduction Tier 2. 20% or 25% savings over the "water use baseline" Table A5.303.2.2</i>	<i>A5.303.2.3.2 or A5.303.2.3.3</i>				
	Mandatory	Water closets shall not exceed 1.28 gallons per flush	5.303.3.1				
	Mandatory	Wall-mounted urinals shall not exceed 0.125 gpf	5.303.3.2.11				
	Mandatory	Floor-mounted urinals shall not exceed 0.5 gpf	5.303.3.2.2				
	Mandatory	Single showerhead shall have maximum flow rate of 1.8 gpm (gallons per minute) at 80 psi	5.303.3.3.1				
	Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 1.8 gpm at 80 psi	5.303.3.3.2				
	Mandatory	Nonresidential lavatory faucets	5.303.3.4.1				
	Mandatory	Kitchen faucets	5.303.3.4.2				
	Mandatory	Wash basins	5.303.3.4.3				
	Mandatory	Metering faucets	5.303.3.4.4				
	Mandatory	Metering faucets for wash fountains	5.303.3.4.5				
	Mandatory	Food waste disposers	5.303.4.1				
	Mandatory	Areas of additions and alterations	5.303.5				
	Mandatory	Standards for plumbing fixtures and fittings	5.303.6				
	Mandatory	Outdoor water use in landscape areas equal to or greater than 500 sf	5.304.2				
	Mandatory	Outdoor water use in rehabilitated landscape projects with areas equal to or greater than 2,500 sf	5.304.3				
	Mandatory	Outdoor water use in landscape areas of 2,500 sf or less	5.304.4				
	Mandatory	Graywater or rainwater use in landscaped areas	5.304.5				
	<i>Elective</i>	<i>Nonpotable water systems for indoor use</i>	<i>A5.303.2.3.4</i>				
	<i>Elective</i>	<i>Appliances and fixtures for commercial application</i>	<i>A5.303.3</i>				
	<i>Elective</i>	<i>Nonwater supplied urinals</i>	<i>A5.303.4.1</i>				
	<i>Elective</i>	<i>Dual plumbing</i>	<i>A5.303.5</i>				
	<i>Elective</i>	<i>Outdoor potable water use</i>	<i>A5.304.2.1</i>				
	<i>Elective</i>	<i>Restoration of areas disturbed by construction</i>	<i>A5.304.6</i>				
	<i>Elective</i>	<i>Previously developed sites w/ exception</i>	<i>A5.304.7</i>				
	<i>Elective</i>	<i>Graywater irrigation system</i>	<i>A5.304.8</i>				
	<i>Elective</i>	<i>Nonpotable water systems</i>	<i>A5.305.1</i>				

	<i>Elective</i>	<i>Irrigation systems</i>	<i>A5.305.2</i>				
DIVISION 5.4 Material Conservation and Resource Efficiency	<i>Tier 2 Prerequisite</i>	<i>Recycled content for 15% of total material cost</i>	<i>A5.405.4 A5.405.4.1 Through</i>				
	Mandatory	Weather Protection	5.407.1				
	Mandatory	Moisture Control: sprinklers	5.407.2.1				
	Mandatory	Moisture Control: Exterior door protection	5.407.2.2.1				
	Mandatory	Moisture Control: Flashing	5.407.2.2.2				
	Mandatory	Construction waste management-comply with either: sections 5.408.1.1, 5.408.1.2, 5.408.1.3 or more stringent local ordinance	5.408.1.1, 5.408.1.2, 5.408.1.3				
	Mandatory	Construction waste management: Documentation	5.408.1.4				
	Mandatory	Universal Waste [A]	5.408.2				
	Mandatory	Excavated soil and land clearing debris (100% reuse or recycle)	5.408.3				
	<i>Tier 2 Prerequisite</i>	<i>Enhanced construction waste reduction 80%– Tier 2 w/ verification w/ verification</i>	<i>A5.408.3.1.1 A5.408.3.1.2</i>				
	Mandatory	Recycling by Occupants w/ exception	5.410.1				
	Mandatory	Recycling by Occupants: Additions w/ exception	5.410.1.1				
	Mandatory	Recycling by Occupants: Sample ordinance	5.410.1.2				
	Mandatory	Commissioning new buildings (≥ 10,000 SF) [N]	5.410.2				
	Mandatory	Owner's or Owner representative's Project Requirements (OPR) [N]	5.410.2.1				
	Mandatory	Basis of Design (BOD) [N]	5.410.2.2				
	Mandatory	Commissioning Plan [N]	5.410.2.3				
	Mandatory	Functional Performance Testing [N]	5.410.2.4				
	Mandatory	Documentation and Training [N]	5.410.2.5				
	Mandatory	Systems Manual [N]	5.410.2.5.1				
	Mandatory	Systems Operation Training [N]	5.410.2.5.2				
	Mandatory	Commissioning Report [N]	5.410.2.6				
	Mandatory	Testing and adjusting for new buildings < 10,000 SF or new systems that serve additions or alterations. [A]	5.410.4				
	Mandatory	System Testing Plan for HVAC, Lighting, water heating, renewable energy, landscape irrigation and water reuse. [AA]	5.410.4.2				
	Mandatory	Procedures for testing and adjusting	5.410.4.3				
	Mandatory	Procedures for HVAC balancing	5.410.4.3.1				
	Mandatory	Reporting for testing and adjusting	5.410.4.4				
	Mandatory	Operation and Maintenance (O&M) Manual	5.410.4.5				
	Mandatory	Inspection and reports	5.410.4.5.1				
	Mandatory	Fireplaces	5.503.1				
	Mandatory	Woodstoves	5.503.1.1				

DIVISION 5.5 Environmental Quality	Mandatory	Temporary ventilation	5.504.1.3				
	Mandatory	Covering of ducts openings and protection of mechanical equipment during construction	5.504.3				
	Mandatory	Adhesives, sealants and caulks	5.504.4.1				
	Mandatory	Paints and coatings	5.504.4.3				
	Mandatory	Aerosol paints and coatings	5.504.4.3.1				
	Mandatory	Aerosol paints and coatings: Verification	5.504.4.3.2				
	Mandatory	Carpet systems	5.504.4.4				
	Mandatory	Carpet cushion	5.504.4.4.1				
	Mandatory	Carpet adhesives per table 5.504.4.1	5.504.4.4.2				
	Mandatory	Composite wood products	5.504.4.5				
	Mandatory	Composite wood products: Documentation	5.504.4.5.3				
	Mandatory	Resilient flooring systems	5.504.4.6				
	Mandatory	Resilient flooring: Verification of compliance	5.504.4.6.1				
	<i>Tier 2 Prerequisite</i>	<i>Resilient flooring systems, Tier 2 w/ verification</i>	<i>A5.504.4.7.1</i> <i>A5.504.4.7.2</i>				
	<i>Tier 2 Prerequisite</i>	<i>Thermal insulation, Tier 2 w/ verification of compliance</i>	<i>A5.504.4.8.1</i> <i>A5.504.4.8.2</i>				
	Mandatory	Filters w/ exceptions	5.504.5.3				
	Mandatory	Filters: Labeling	5.504.5.3.1				
	Mandatory	Environmental tobacco smoke (ETS) control	5.504.7				
	Mandatory	Indoor moisture control	5.505.1				
	Mandatory	Outside air delivery	5.506.1				
	Mandatory	Carbon dioxide (CO2) monitoring	5.506.2				
	Mandatory	Acoustical control w/ exception	5.507.4				
	Mandatory	Exterior noise transmission, prescriptive method	5.507.4.1				
	Mandatory	Noise exposure where noise contours are not readily available	5.507.4.1.1				
	Mandatory	Performance method	5.507.4.2				
	Mandatory	Site features	5.507.4.2.1				
	Mandatory	Documentation of compliance	5.507.4.2.2				
	Mandatory	Interior sound transmission w/ note	5.507.4.3				
	Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1				
	Mandatory	Chlorofluorocarbons (CFCs)	5.508.1.1				
	Mandatory	Halons	5.508.1.2				
	Mandatory	Supermarket refrigerant leak reduction for retail food stores 8,000 square feet or more sections	5.508.2 through 5.508.2.6.3				
	<i>Elective</i>	<i>Wood framing or OVE w/ note</i>	<i>A5.404.1</i> <i>A5.404.1.1</i> <i>A5.404.1.2</i>				
	<i>Elective</i>	<i>Regional materials</i>	<i>A5.405.1</i>				
	<i>Elective</i>	<i>Bio-based materials</i>	<i>A5.405.2</i>				

	Elective	Rapidly renewable materials	A5.405.2.2				
	Elective	Reused materials w/ note	A5.405.3				
	Elective	Cement and concrete: Cement	A5.405.5.1				
	Elective	Cement and concrete: Concrete /w SCM & Mix	A5.405.5.2				
	Elective	Cement and concrete: Additional means of	A5.405.5.3				
	Elective	Choice of materials	A5.406.1				
	Elective	Life cycle assessment: General	A5.409.1				
	Elective	Whole building life cycle assessment	A5.409.2				
	Elective	Materials and system assemblies	A5.409.3				
	Elective	Substitution for prescriptive standards	A5.409.4				
	Elective	Verification of compliance	A5.409.5				
	Elective	Indoor air quality (IAQ) during construction	A5.504.1				
	Elective	IAQ postconstruction	A5.504.2				
	Elective	IAQ testing	A5.504.2.1 A5.504.2.1.1 A5.504.2.1.2 A5.504.2.1.3				
	Elective	No added formaldehyde Tier 1 w/ notes	A5.504.4.5.1				
	Elective	Acoustical ceilings and wall panels w/ verification of compliance	A5.504.4.9 A5.504.4.9.1				
	Elective	Hazardous particulates and chemical pollutants	A5.504.5				
	Elective	Entryway systems	A5.504.5.1				
	Elective	Isolation of pollutant sources	A5.504.5.2				
	Elective	Filters, Tier 2	A5.504.5.3.1.1				
	Elective	Lighting and thermal comfort controls	A5.507.1 A5.507.1.1 through A5.507.1.2				
	Elective	Daylight w/ exception	A5.507.2				
	Elective	Views w/ exception	A5.507.3				
	Elective	Interior office spaces	A5.507.3.1				
	Elective	Multi-occupant spaces	A5.507.3.2				
	Elective	Hydrochlorofluorocarbons (HCFCs)	A5.508.1.3				
	Elective	Hydrofluorocarbons (HFCs)	A5.508.1.4				
Additional Measures	Added measures Should be achieved across at least three categories	Select 3 additional measure	Additional measures: 1. 2. 3.				
Total number of Measures required for Tier 2			25				
Total number of Measures selected							

Documentation Author's /Responsible Designer's Declaration Statement

Check the appropriate box(s) for the list below

- ☐ **Mandatory:** I attest that the mandatory provisions checklist is accurate and complete.
- ☐ **Tier 2 compliant:** I attest that the total number of voluntary measures selected meet or exceed the total number required to achieve Tier 2 compliance.
- ☐ **Partial Tier 2 compliant:** I attest that the total number of voluntary measures selected do not meet the total number required to achieve Tier 2 compliance however partial Tier 2 compliance has been achieved.

Signature:

Company:

Date:

Address:

License:

City/State/Zip:

Phone:

Notation

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901

ITEM 12. CBSC proposes to amend Chapter 1, Section 103 as follows:

**CHAPTER 1 ADMINISTRATION
SECTION 103 BUILDING STANDARDS COMMISSION**

103.1 BSC-CG. Specific scope of application of the agency responsible for enforcement, the enforcement agency, and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

1. **Application** – All occupancies where no state agency has the authority to adopt green building standards applicable to those occupancies.
Enforcing Agency – State or local agency specified by the applicable provisions of law.
Authority cited – *Health & Safety Code* Sections 18930.5(a), 18938, and 18940.5.
Reference – *Health & Safety Code*, Division 13, Part 2.5, commencing with Section 18901.
2. **Graywater Systems.** The construction, installation, and alteration of graywater systems for indoor and outdoor uses in nonresidential occupancies.
Application – All occupancies where no other state agency has the authority to adopt green building standards applicable to those occupancies.
Enforcing agency – State or local agency specified by the applicable provisions of law.
Authority cited – *Health & Safety Code* Section 18941.8.
Reference – *Health & Safety Code* Section 18941.8.

103.1 Adopting Agency Identification....

Notation:

Authority: *Health and Safety Code* Sections 18928, 18930.5, 18934.5, 18940.6, and 18941.8.

Reference: *Health and Safety Code* Section 18928.1, 18940.6, and 18941.8.

ITEM 13. CBSC proposes to amend Chapter 2 as follows:

**SECTION 202
DEFINITIONS**

....

ALTERNATE WATER SOURCE. Nonpotable source of water that includes but is not limited to graywater, on-site treated nonpotable water, rainwater, and reclaimed (recycled) water.

....

DISINFECTED TERTIARY RECYCLED WATER. Filtered and subsequently disinfected wastewater that meets the approved method of treatment and minimum level of water quality specified in California Code of Regulations, Title 22, Division 4, Chapter 3 for the purpose of direct beneficial use.

....

CONSTRUCTION SITE. A parcel of land bounded by lot line(s) or a designated portion of a public right-of-way where construction is taking place. A construction site may include, but not be limited to, buildings and accessory structures, walks, sidewalks, curbs, curb ramps, parking facilities, planting areas, pools, promenades, exterior gathering or assembly areas, raised or depressed paved areas, open spaces, golf courses, and/or landscape areas.

ON-SITE TREATED NONPOTABLE WATER. Nonpotable water that has been collected, treated, and intended to be used on-site and is suitable for direct beneficial use. Sources for on-site treated nonpotable water include, but are not limited to, gray water; rainwater; stormwater; reclaimed (recycled) water; cooling tower blow-down water; and foundation drainage.

....

RECLAIMED (RECYCLED) WATER. (BSC-CG) Nonpotable water that meets California Department of Public Health State Water Resources Control Board statewide uniform criteria for disinfected tertiary recycled water. Reclaimed (recycled) water is also known as “recycled water” or “reclaimed water”.

....

RECYCLED WATER SUPPLY SYSTEM. The building supply pipe, the water distribution pipes, and the necessary connecting pipes, fittings, control valves, backflow prevention devices, and all appurtenances carrying or supplying reclaimed (recycled) water in the building or within the premises.

Notation:

Authority: Health and Safety Code Sections 18928, 18930.5, 18934.5, 18940.6, and 18941.8.

Reference: Health and Safety Code Section 18928.1, 18940.6, and 18941.8.

ITEM 14. CBSC proposes to amend Chapter 5 (Mandatory) as follows:

**CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES**

Division 5.3 - WATER EFFICIENCY AND CONSERVATION

**SECTION 5.305
WATER REUSE SYSTEMS
(Reserved)**

5.305.1 Recycled Water Supply Systems. Recycled water supply systems shall be installed in accordance with Sections 5.305.1.1, 5.3.5.1.2, and the California Plumbing Code.

5.305.1.1 Outdoor Recycled Water Supply Systems. All newly constructed nonresidential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, shall be provided with both a potable water supply system and a recycled water supply system. The recycled water supply system shall allow the use of reclaimed (recycled) water for aboveground and subsurface irrigation to all landscape irrigation systems.

For the purposes of Section 5.305.1.1, when a recycled water supply pipe is located within 300 feet from a construction site boundary, it shall be considered that reclaimed (recycled) water is available from a municipal source.

Exceptions:

1. Service areas in which the only reclaimed (recycled) water is used for potable purposes, or in which net nonpotable deliveries are anticipated to remain level or decrease as a result of the potable reuse project.
2. Where access to disinfected tertiary recycled water is not feasible and/or cost-efficient, as determined by the Authority Having Jurisdiction in consultation with the recycled water purveyor.

Note: A city, county, or city and county, in consultation with the recycled water purveyor, may further reduce the area for the mandate to install recycled water supply systems if the recycled water purveyor is unable to accommodate new services or unable to provide uninterrupted service.

3. A potable water supply system is not required for landscape irrigation if the landscape irrigation system is supplied with recycled water at the time of final inspection.
4. Potable water may be used with the recycled water supply system on a temporary basis, as allowed by the Authority Having Jurisdiction in consultation with the recycled water purveyor.

5.305.1.2 Technical Requirements for Outdoor Recycled Water Supply Systems. Recycled water supply systems for outdoor applications shall meet the requirements of this code, and the California Code of Regulations, Title 17, Division 1, Chapter 5, Subchapter 1; Title 22, Division 4, Chapter 3; and Title 23, Division 2, Chapter 2.7, as applicable.

....

Notation:

Authority: Health and Safety Code Sections 18928, 18930.5, 18934.5, 18940.6, and 18941.8.

Reference: Health and Safety Code Section 18928.1, 18940.6, and 18941.8.

NEW ITEM 15. CBSC proposes to amend Chapter 2 as follows:

[This proposed code amendment is a result of comments received from the GREEN-PEME Ad Hoc Code Advisory Committee (CAC) on February 13-14, 2017 as it pertained to a proposed definition in the California Plumbing Code for the same term. This amendment aligns both definitions].

CHAPTER 2
DEFINITIONS

201.0 General

...

202.0

...

~~**HYBRID URINAL**~~ **URINAL, HYBRID.** **[BSC-CG]** A urinal that conveys waste into the drainage system without the use of water for flushing and automatically performs a drain-cleansing action after a predetermined amount of time.

Notation:

Authority: Health and Safety Code Sections 18928, 18930.5, 18934.5, 18940.6, and 18941.8.

Reference: Health and Safety Code Section 18928.1, 18940.6, and 18941.8.

NEW ITEM 16. CBSC proposes to amend CBSC Proposes to amend Chapter A5, Section A5.303.4.1 Nonwater supplied urinals.

[This proposed code amendment is a result of changes made to the definition in Item 15 above. This amendment will maintain clarity and consistency between the two related code terms].

...

A5.303.4 Water conserving plumbing fixtures and fittings.

A5.303.4.1 Nonwater supplied urinals. Nonwater supplied urinals as installed...

Where approved, ~~hybrid urinals,~~ urinal, hybrids, as defined in Chapter 2 shall be considered waterless urinals.

Notation:

Authority: Health and Safety Code Sections 18928, 18930.5, 18934.5, 18940.6, and 18941.8.

Reference: Health and Safety Code Section 18928.1, 18940.6, and 18941.8.